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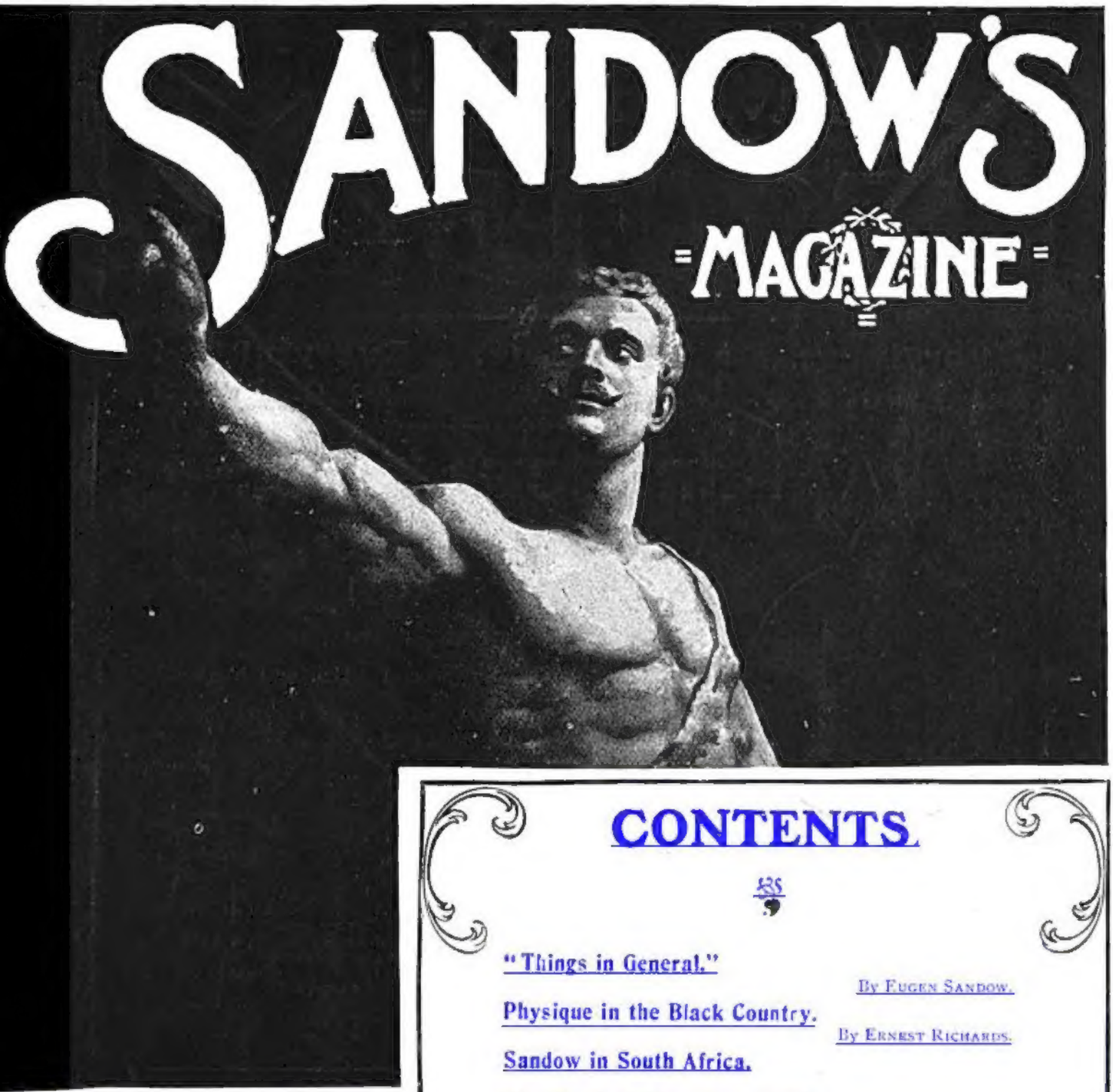

No. 76. Vol. XIII.

6d.

OCT. 1904.

## CONTENTS.

"Things in General." By Eugen Sandow.

Physique in the Black Country. By Ernest Richards.

Sandow in South Africa.

The Physical Education of Girls.

Muscle and the Mechanism of Movement. By T. J. Pryce-Jenkins, M.R.C.S., L.R.C.P.

A Shooting Trip in the Himalayas. By Gurkin-Pal Singh Mann.

Undergraduate Frolics. By F. Neville Piggott.

Foolhardy Escapades. By M. A. Hughes.

The British Patents Acts.

Hints from Sandow, Notes of the Month, Ladies' Pages, &c., &c.

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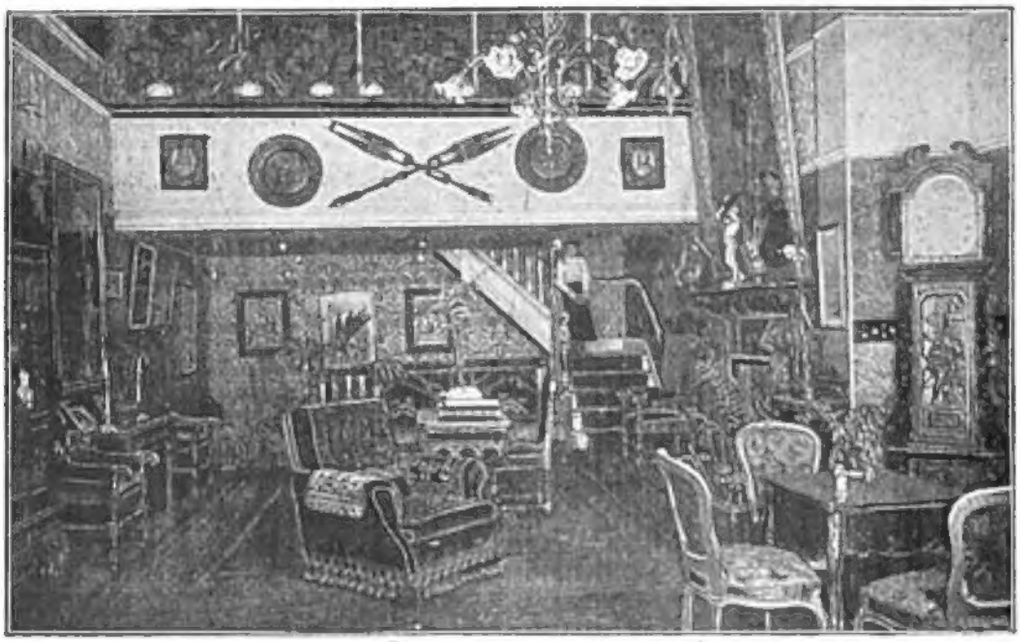

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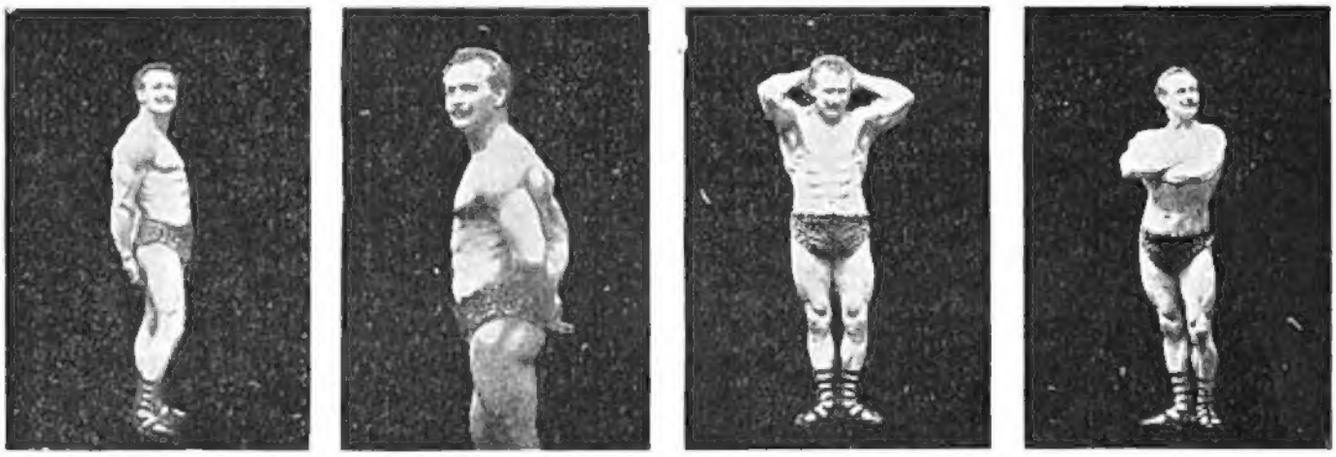

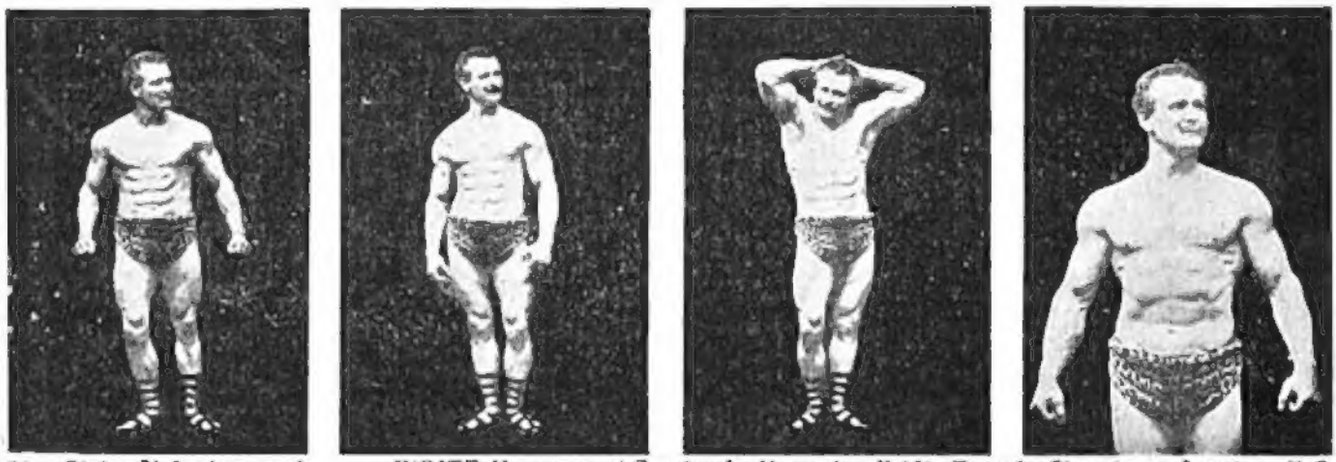

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# THE MAN BEAUTIFUL.

BEAUTY has so long been considered an attribute exclusively pertaining to women, that the mere man may ask himself why among us moderns the Greek ideal is not as much in force as regards his own sex as it is with regard to the so-called fair sex. It has been argued, and with much show of reason, by philosophers, that man is inherently as beautiful as woman, both in form and face, the difference being one of kind, not degree. Owing to the stress of modern life, however, men have come to neglect their personal appearance, but this is a great mistake, not only from a social, but also from a business point of view, for first impressions are often the most important, and it is just as necessary for a man to give the best possible first impression by his personal appearance as it is for him to be neatly and fashionably dressed. These remarks apply more especially to defects of the face, which may either be absolutely repulsive, or at any rate give an unfavourable first impression. For example, redness of the nose, which may arise from quite a variety of causes having to do with the general health, is always put down by the unkind as an attribute of the tippler. Eyebrows which meet across the forehead give an exceedingly disagreeable impression, and are thought to be a sign of ill-temper. An ugly mole may mar even the most handsome face, and a birthmark is a hindrance to a man as well as a woman in the matrimonial market as well as socially, for people do not like to receive among their guests anyone who is repulsively disfigured, and I know of at least one man who shot himself because he could not bear to go about with a face one side of which was almost covered by a large port-wine stain.

Medical men are apt not to pay sufficient attention to mere matters of the personal appearance, which do not affect the health of the individual, and it has been left for a lady to take up a branch of science which has too long been neglected. This lady is extremely well known to the reading public as a high authority on health and beauty, and the clever editress of two very popular magazines, *Womanhood:* the magazine of woman's progress and interests, and *Baby: The Mother's Magazine*, a guide to the health and education of children. Mrs. Ballin has been in practice for upwards of twelve years, during which time she has cured over ten thousand cases of superfluous hair, redness of the nose, vein marks, moles, birthmarks, and other disfigurements in both sexes, and it is now becoming known that she devotes special care to gentlemen patients, so many of her lady patients having asked her to treat their husbands or sons. She treats men only for defects of the hair, face, and hands, such for example, as baldness, greyness, ill-shaped eyebrows, hair growing too high on the cheeks, acne, redness of the nose, moles, warts, and birthmarks.

Mrs. Ballin is particularly successful in severe cases of that birthmark known as port-wine stain, and in a recent interview she mentioned the case of an M.D. of the London University who, owing to a terrible disfigurement of this kind, was unable to get any but a poor practice in a poor neighbourhood. Mrs. Ballin entirely removed the mark, and he has now bought a West End practice in London and is doing remarkably well. In another case, a schoolmaster was nearly driven mad by the fact that he had a large mole on the tip of his nose, which afforded considerable amusement to his boys. After the mole was removed by this lady he became a happier man and able to obtain a better position. An amusing case treated by Mrs. Ballin was that of a gentleman who had very thick bushy eyebrows, and was extremely sensitive about them. Before proposing to the lady of his heart, he confided his trouble to Mrs Ballin's sympathetic ears, and got his eyebrows re-modelled on a more approved plan. In another case a gentleman had a very ugly moustache, but having suicidal tendencies, was not permitted to use a razor. He was brought to Mrs. Ballin by his attendant, and the moustache removed by electrolysis, very much to the unfortunate man's satisfaction.

The majority of Mrs. Ballin's gentlemen patients, however, come to her for redness of the nose, and this she is able to treat most satisfactorily, partly by electrolysis, partly by dieting and by suitable local applications. An interesting case was that of a temperance lecturer, much hampered in his work by the knowledge that the persons he was addressing probably thought him a secret tippler; while another successful case was that of quite a young man who had been suffering from red nose, originally arising after an attack of scarlet fever. Being wealthy he had consulted almost every well known skin doctor in Paris and London, but was eventually cured by Mrs. Ballin after only twelve sittings.

As men are naturally shy about being seen when going for beauty treatment, every precaution is taken that friends shall not meet, or gentlemen patients encounter any of the lady visitors, a separate waiting-room being kept for gentlemen on the ground floor of Mrs. Ballin's handsome residence at 18, Somerset Street, Portman Square, W., while that for ladies is on the first floor. Her advice is sought on many subjects, and is always of practical service.


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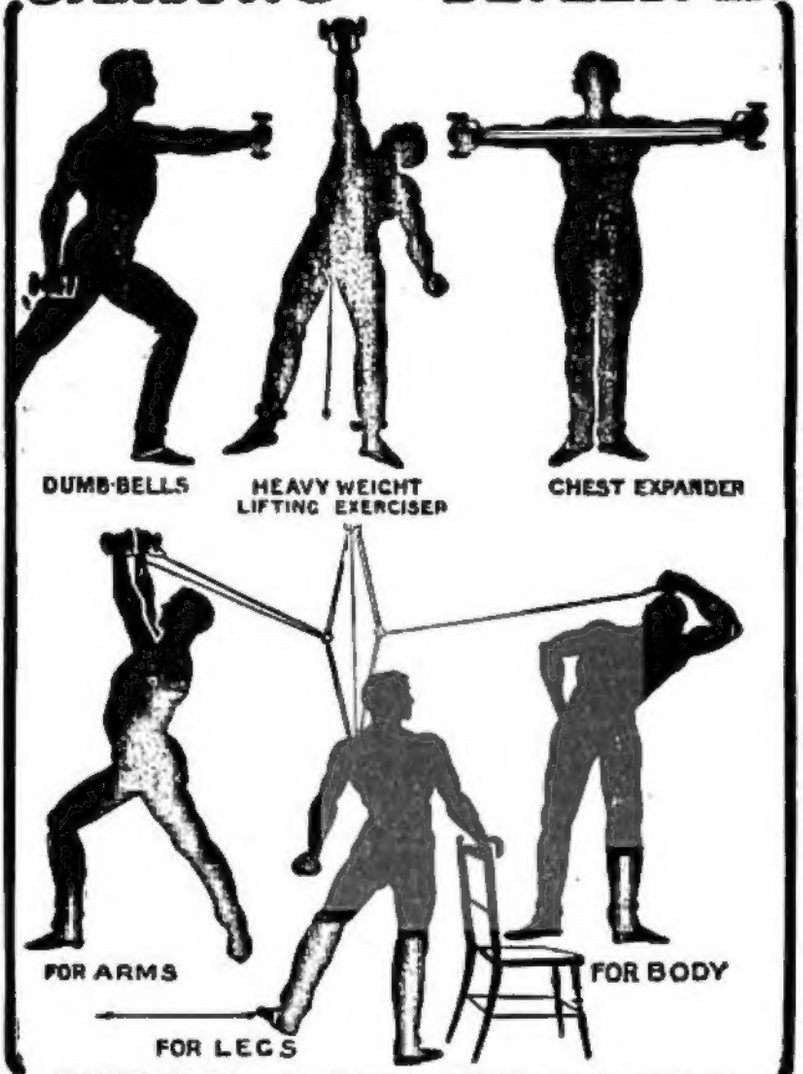


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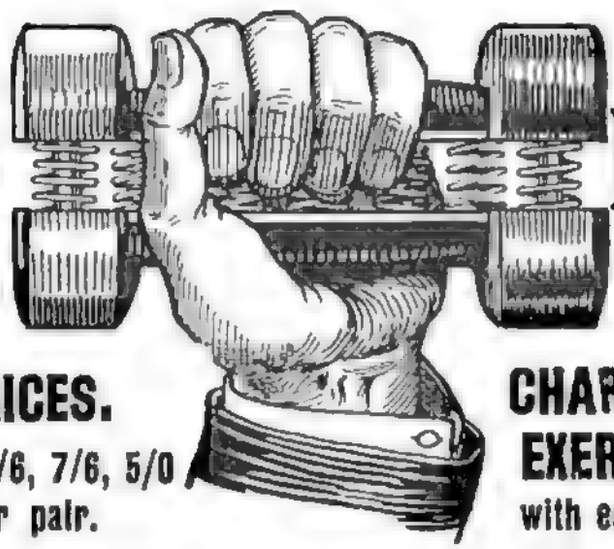

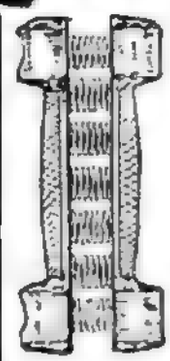

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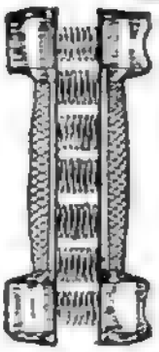

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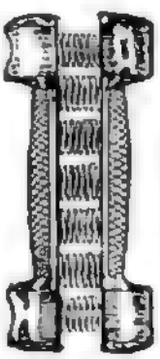

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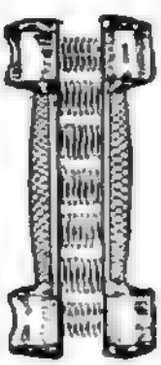

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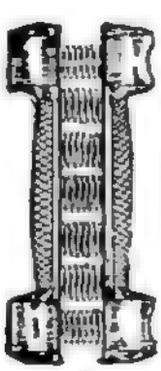

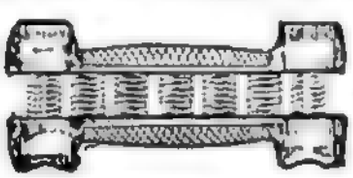

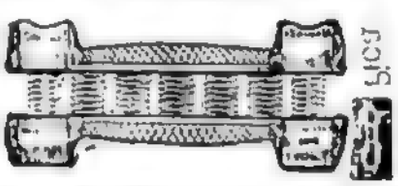

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CONTENTS FOR OCTOBER, 1904.


| | | Page |
|---|---|---|
| DANCING SATYR (By Echtermayer) | | Frontispiece. |
| ON THINGS IN GENERAL | Eugen Sandow | 225 |
| PHYSIQUE IN THE BLACK COUNTRY *Illustrated.* | Ernest Richards | 227 |
| DEFORMITIES AND DISEASE PRODUCED BY OCCUPATIONS | M.D. | 234 |
| SANDOW IN SOUTH AFRICA *Illustrated.* | | 237 |
| UNDERGRADUATE FROLICS | F. Neville Piggott | 242 |
| MUSCLE AND THE MECHANISM OF MOVEMENT. *Illustrated.* | T. J. Pryce Jenkins, M.R.C.S. Eng., L.R.C.P. Lond. | 244 |
| "HEALTH" ON PHYSICAL CULTURE | | 248 |
| EXERCISE AS A CURATIVE AGENT IN LIVER TROUBLE | Robert Beswick, M.R.C.S., L.S.A. | 249 |
| A GERMAN SUGGESTION FOR A NEW EXERCISE FOR SANDOW *Illustrated.* | | 251 |
| A FIGHT FOR LIFE. A True Story | N. Franks | 252 |
| HOW TO BE HEALTHY | | 254 |
| A SHOOTING TRIP IN THE HIMALAYAS *Illustrated.* | Gurkir Pal Singh Mann | 255 |
| THE PHYSICAL EDUCATION OF GIRLS | | 258 |
| FOOLHARDY ESCAPADES *Illustrated.* | M. A. Hughes | 261 |
| OUR LADIES' PAGES *Illustrated.* | | 264 |
| AMUSEMENTS | | 267 |
| SPORTING PATENTS | | 268 |
| THE BRITISH PATENTS ACTS AND THE NOVELTY OF INVENTIONS | C. F. Ennis | 269 |
| REVIEWS | | 271 |
| NOTES OF THE MONTH *Illustrated.* | | 273 |
| A SPORTING EPISODE IN NORWAY | Richard Thiesk | 279 |
| WOMAN AND EXERCISE | | 284 |
| PHYSICAL TRAINING IN SCHOOL | | 286 |
| SPORTING SPECIALITIES | | 293 |
| HINTS FROM SANDOW | | 299 |


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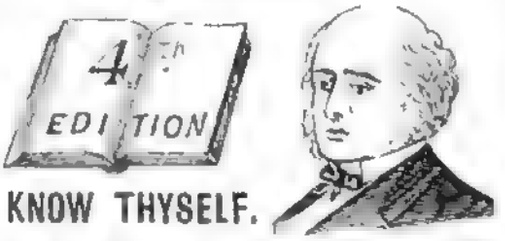


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MENTION THIS PAPER

*Photo., Dr. Dingley, Wednesbury.*]

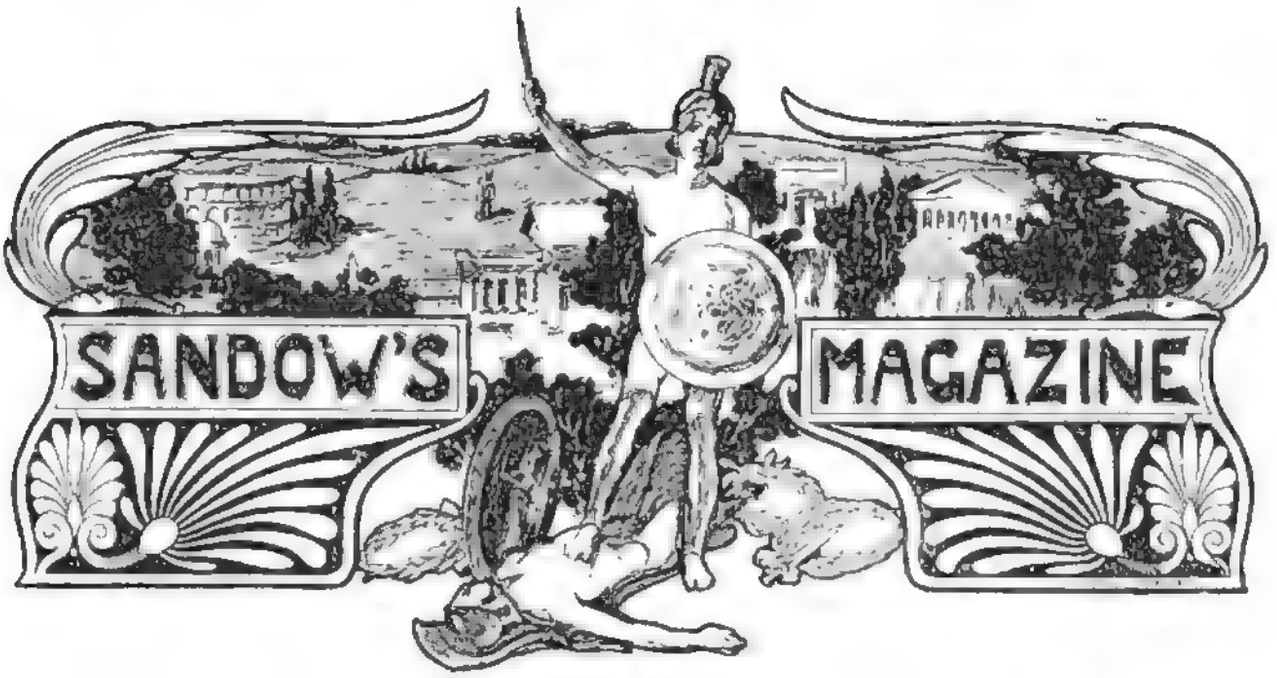
BLAST FURNACE AND PIG-IRON BED.

(*See* "Physique in the Black Country.")

*By permission, Berlin Photo. Co.*]

DANCING SATYR. (*By Echtermeyer.*)

(*Berlin National Gallery.*)




OF

PHYSICAL CULTURE, SPORT, AND FICTION.

VOL. XIII. *OCTOBER*, 1904. No. 76.

# On Things in General.

WITH thousands of miles separating me from the majority of my readers in the Mother Country, it is difficult to find a topic which is likely to prove of current interest, and therefore I have decided this month to touch lightly upon various matters which at this period of the year are likely to be interesting to physical culturists—a term, we hope, it will soon be necessary to discard from the fact that owing to the general acceptance of the benefits of physical culture, no special designation will be necessary for any section of the community. That this is likely to come about I do not for one moment doubt, for everything points to the successful issue of my ideals. I always insisted that to bring about an improvement in the national physique, attention must be paid to the younger generation, rather than the adults, and already I hear that the educational authorties are doing all in their power to carry out the suggestions for the more pronounced introduction into the school curriculum of physical training. I sincerely hope, however, that my words of warning as to certain portions of the Model Code, as at present existing, will not be lost sight of, for there is much in the syllabus which is not only useless, but detrimental, and I fully anticipate that in a few years the lack of good results from following the directions laid down by the Committee will be glaringly apparent, and then, perhaps, we shall have a code which will be the result of careful compilation by experts, instead of, as in the present instance, the work of those whose knowledge of the subject is *nil*. The whole idea of introducing a proper code of physical exercises

into our elementary schools is to improve the physique and stamina of the race, and the ideal course would be one in which every exercise has a definite object and which contained a minimum number of movements to cover the level development of every part. Not, however, until some radical alterations have been made in the existing state of affairs and a good system of physical training adopted throughout the schools of Great Britain and Ireland will the child's body be properly developed simultaneously with its mind and a new race will begin to arise—but not till then.

As no doubt you will see from this issue, in furtherance of my great scheme of preaching the value of physical culture to the whole of the English-speaking race, and following on my recent trip to Australasia, I have been making an all too brief trip to the latest addition to Great Britain's possessions, the Transvaal, and I trust that my visit will have some good result. Certainly, judging from the receptions I have received in Johannesburg, there is every sign that a number of fresh adherents to the cause of physical culture will be the outcome. Those who are regular readers of my magazine will doubtless have noticed that South Africa has been able to claim a large number of supporters of my system. These it has been a source of extreme pleasure to come in contact with, and I must say that the welcomes accorded me have been most flattering. Already several clubs are in the course of formation for the encouragement of systematic physical exercise. I was the guest recently of the members of the Johannesburg Amateur Gymnastic Society, with whom I spent a most enjoyable time, and learned with pride that to my system was to be attributed the all-round excellence of the members.

For some inexplicable reason, it is generally accepted that physical culture, like cricket and football, should have an "off season," and that now the autumn is with us, the season has commenced. In my opinion it is as much a mistake to ignore systematic exercise during the summer months as it would be to leave off taking baths, and it is only those who go through their exercise daily and conscientiously who can hope to keep themselves in that pink of condition which is the very essence of life. However, as the evenings draw in, there is less opportunity for outdoor exercise, and therefore, no doubt, many will be hesitating between the gymnasium and physical culture. As I have so often pointed out, gymnastics, in some instances, are to be recommended, but, as a general rule, they are more likely to do harm than good, and far greater benefits will accrue from the adoption of a carefully-selected series of systematic exercises.

The competition which Messrs. Harmsworth are running in *Answers*, which they have asked me to adjudicate upon, and also give to competitors the benefit of my experience, promises to be a colossal affair if one can estimate by the amount of correspondence it has engendered. As everyone knows, it has been instituted by the proprietors of the paper for the purpose of encouraging a habit of daily exercise, with the object, not only of developing muscle and gaining strength, but also of producing, establishing, and maintaining a healthy condition of the organs of the body, so that their functions may be properly performed; and although measurements are the only means upon which we can rely for a computation of the amount of attention that has been given to this object, yet I would once more impress upon competitors that their aim had far better be the bringing of their limbs into proper proportions, and the eradicating of any maladies to which they may be subject, than towards mere muscular development.

*Photo., Mr. W. Macfarlane, F.I.C.*]
TAPPING AN OPEN-HEARTH FURNACE.

# Physique in the Black Country.

By ERNEST RICHARDS.

WHY the South Staffordshire and East Worcestershire coal and iron districts should be specially designated the "Black Country," and have passed into the school geographies under that title, any more than the South Wales, or Tyneside, or Manchester districts, it would be difficult to determine, except for the fact that it was the first mining and iron-making district in Great Britain where these two industries were prosecuted simultaneously on anything like a pretentious scale. For in this district the mine, with its contingent shale heap—known locally as a pit bank—the blast furnaces with their slag tips, and the forges with their smoking stacks and furnaces, began here to blot the fair aspect of nature, to any appreciable extent, long before similar deformities were born in other parts of the country; hence, in contradistinction to the almost universal woodland, pasture and smiling cornfield that at one time prevailed, this first despoiling of fair nature's aspect was called the Black Country, a name which it has ever since signally and significantly retained, though the "blacking" operations have been repeated in a dozen other localities without any similar change in their nomenclature.

GAS TUBE MILL AT JAMES RUSSELL & SONS.

It is not my purpose, however, to trace the historical development either of names or industries, but rather to submit a popular sketch of some of the industries themselves, together with an account of the physical and mental peculiarities of the men engaged in them—the men who have rightly been called "the men of iron."

But notwithstanding the statement in the above paragraph, it will be necessary in order that I may give the reader a correct impression, to prefix my first description of the industries of a particular centre by giving a brief general historical survey of the industries of the district.

One of the peculiar, and at the same time desirable (judged from an economic stand-

point) aspects of the Black Country, at the present time, is that each town has its staple industry or industries which give the people of each centre their own peculiar characteristics. But this was not by any means true of the district during the eighteenth and the first sixty years of the nineteenth century. For whilst, even in those halcyon days of trade, several towns and villages had their special light trades, as nail. screw, key and lock making, yet the main bulwark of Black Country industry was found in the coal and iron mines, the blast furnaces where the ore was smelted, and the forges where that smelted ore was puddled and rolled into bars and sections of iron. Thus, in the good old times, which every ancient inhabitant still loves to dwell upon, the surface of the country was freely punctuated with mines, whilst, in every direction, at night, as far as the eye could reach, the flame of forge or furnace licked the blackness into glaring day. The only relief to these ponderous industries were the light trades referred to above and a few contingent industries of an engineering character, which naturally arose in an industrial district of this nature.

In those days, whether the eye turned north, south, east or west, immediately the twilight faded into gloom, the vision was greeted with leaping tongues of flame, and on the ears fell the dull thud of shingling hammer and hissing steam, reminding the hearer of a continuous warfare which man waged in order to beat and fashion the elemental products of nature for his use.

But various economic causes conspired to drive the major portion of these heavier trades to the coast and river ports, and though the mine, furnace and forge is by no means wholly eradicated from the Black Country, as the illustration of the Willingsworth furnaces proves, yet in towns like Wolverhampton, Walsall, Wednesbury, Willenhall, Darlaston, and Cradley Heath, the various economic and evolutionary changes invented a necessity, and necessity again became "the mother of invention," with the result that the towns referred to, together with many other centres, have developed one,

AXLE SMITHS' SHOP (RELIANCE WORKS).

two, or more specialised industries or rather staple trades, and each trade has developed a class of craftsmen as distinct, in many instances, from each other with regard to industry in their mental and physical peculiarities as the Hottentot is from the Kaffir, the Bushman from the Zulu. For the dwarf of the African plains does not differ more widely from the warriors of Cetewayo than does the stooping Willenhall lock filer from the sturdy shingler whose photo adorns these pages and who is a first rate specimen of his class. In passing, I may state that Samuel Grice, the subject of this photo, was born in 1826, and commenced to work in 1834, retiring at the age of 73, after sixty-five years of hard work, fifty-five years of which was spent in the literally iron-armoured trade of a shingler, and is still hale and hearty at the age of 78. He is a type of man that is gradually disappearing from most parts of the Black Country generally, including Wednesbury, the town of whose particular industries I shall make the subject of my first article.

## WEDNESBURY.

The present staple industries of Wednesbury are the manufacture of coach axles and coach ironwork, and the making of all sorts of tubes, together with a very special series of industries carried on by that huge firm, known as the Patent Shaft and Axletree Co., Limited, which manufactures steel, rolls all sorts of conceivable sections of iron, builds bridges and turntables for every country in the world, and makes wheels and axles which compete with the sun in their journeys round the earth. But first, in chronological order is the manufacture of coach ironwork.

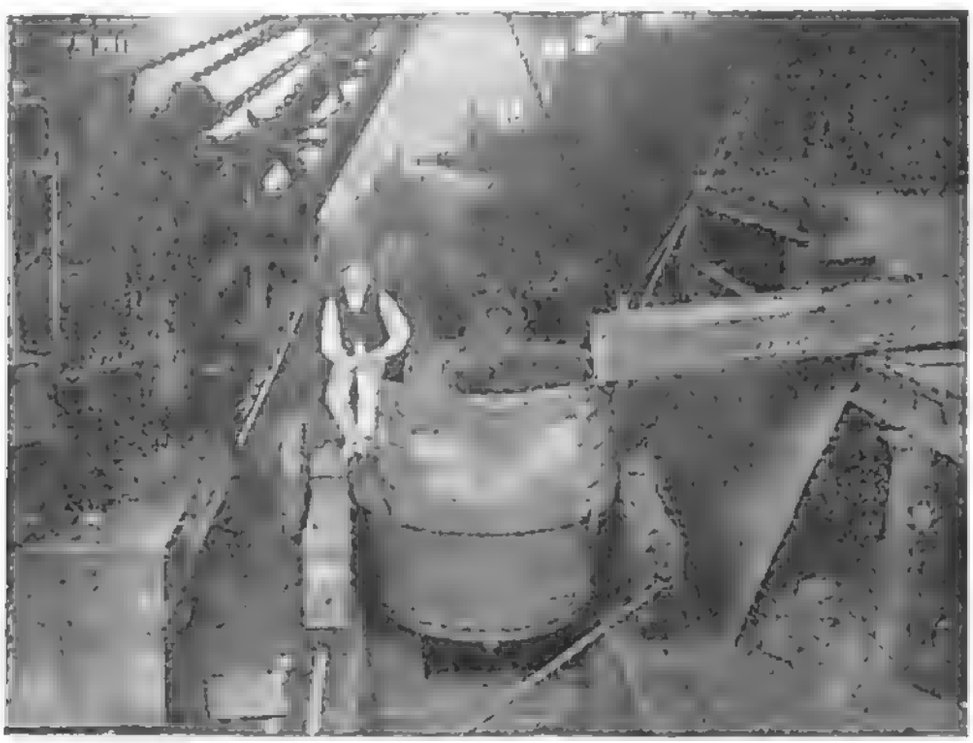


*Photo., Mr. W. Macfarlane, F.I.C.*]

LADLE INTO WHICH MOLTEN STEEL IS RUN (P.S.A. CO.'S WORKS).

The introduction of this manufacture is *not* mentioned in the Domesday Book, and may for all practical purposes be considered as contemporaneous with the Georgian era. The writer may be pardoned for mentioning that his ancestors were instrumental, as employers of labour, in developing the industry when machinery was but little used and coach smithing was a fine art of the handscraftsmen.

As a matter of fact, until comparatively recent times, one of the common, but picturesque figures in the streets of this old Saxon town was the horny-handed coach-smith, clad in broadcloth suit, his head sometimes adorned with silk hat, his leather apron always to the fore, which kept the flashes from his breeches, his slight stooping figure eloquent of a trade which made great demands on the muscles of the arms and shoulders and small of the back, with a slight tendency to narrow the chest; for he bent over the anvil as he fashioned the Cape mail axle or clip. Another peculiar physical development which owes its origin to trade is what may be called the "stamp leg." This really means that the man, called a kicker, who uses one leg to raise the stamp by means of a stirrup arrangement has a stronger muscular development in one leg than the other. The lesson here implied of illustrating the necessity for all-round development in order to produce a perfect man needs no encomium on my part to enforce it.

*Photo., Mr. W. Macfarlane, F.I.C.*]

A PUDDLER AT WORK.

SAMUEL GRICE, AGED 78.

The process of smithing coach axles has not materially changed during the last twenty years, nor has the leather-aproned type entirely disappeared from the streets, though, truth to tell, the present-day smith usually prefers to doff it before taking his Saturday afternoon stroll.

Now, having briefly discussed the men engaged in this time-honoured industry, the process of manufacture will no doubt prove interesting to the general reader, especially as I shall endeavour to avoid the pitfall of being too technical.

The average Londoner who daily rides on the 'bus from his suburban home to the city does not realise that the mainstay of the vehicle—the axle—is the product of many processes, not the least of which is the muscular attention and trained ingenuity of the axlesmith and the blow of the steam hammer. Nor does the rider usually trouble to solve the query as to how the enormous and various strains demanded of London 'buses can be sustained by such comparatively frail-looking axles. The answer to this latter query, however, is simple. A number of pieces of square iron are placed together and heated. This is called a faggot. The faggot is then beat into the required shape and size by tilt or steam hammers, and eventually by the smiths themselves. This method of reducing several pieces of iron to

a pulp, so to speak, ensures great strength and toughness without unwieldy bulk, and at the same time enables them to secure the correct temper of iron or steel. The axle is then finished in a lathe, after which the boxes and bolts are placed on, the ends packed, and it is then ready to jog round the Bank, trek across the veldt, support the wheels of a prairie schooner, or carry the products of civilisation to the loneliest sheep stations on the Australian downs. A glance at the accompanying illustration, taken by permission of Messrs. J. Oldbury and Sons, will prove that the axle smith is no puny dwarf, but possesses muscular development above the average, even being free in some instances from the stoop referred to in a previous paragraph.

TUBE MILL AT J. RUSSELL & SONS, LTD.

To enter into all the details of coach-smithing would require an article by itself. I must, however, state that all the ironwork essential for the building of a vehicle, from the spring of the Lord Mayor's carriage to the axle of a municipal water cart or brewer's dray, is manufactured in Wednesbury.

The second industry to which I shall refer has, in point of importance, almost eclipsed the first, for by many the manufacture of tubes is considered the staple industry of the town.

The birth of this industry was coincident with the adoption of gas lighting, and its inauguration as a Wednesbury industry is due to the ingenious enterprise of Mr. James Russell, the founder of the well-known firm of Messrs. James Russell & Sons, Limited. At this works tubes were made as early as 1812, but since those pioneer days various improvements and inventions have been adopted. As a matter of fact, the history of the tube trade is a history of mechanical inventions and a record of patents, until it has become one of the most specialised of all the industries of these islands. Many of the firms specialise in cycle tubes, others in gas and steam up to certain sizes, and others make chiefly fittings, whilst a

*Photo., Mr. W. Macfarlane, F.I.C.*]

CHARGING A STEEL FURNACE.

few of the larger firms, as the one mentioned above, produce tubes from the smallest size up to the heavy steam mains, in addition to every possible conceivable shape and section and every variety of fittings.

Much of the heavy tube trade is now done by machinery, including the bevelling, skelping, and welding, but each section of the trade is carried on by a different set of men. Thus there are welders, fitting makers, and other artisans, in addition to those who finish, as the screwers and turners. For an ordinary gas tube the strip is placed in a furnace, and drawn from thence when sufficiently heated, and then skelped and welded by the various mechanical appliances.

One of the requisite qualifications of a tube furnace man is that he shall be able to stand heat, and he bears the hall-mark of his calling on his very face, which is usually flushed on its weather side (as a sailor would describe it) from constant exposure to the glaring heat.

But notwithstanding this, the furnace and mill hands are men of fine physique, though bearing in their attitude and demeanour the marks of their calling.

The men and boys engaged in screwing are generally less well-developed, and seem to live in an atmosphere of grease, which adorns every portion of their clothing, giving them much the appearance of men clad in oilskin suits.

Passing on from the tube to the manufacture of steel, which is carried on at the Patent Shaft and Axletree Company's works, it will be well to point out that this firm's operations include mechanics and artisans of almost every trade and calling, from day labourers to skilled mechanics, and draughtsmen and puddlers to well-educated analytical chemists and metallurgists. As a matter of fact, about a fourth of the inhabitants of Wednesbury find employment here.

The illustration of the puddler at work shows a man who probably follows the most arduous calling in the Black Country, and a trade which has been least affected by mechanical devices. He stands, this Viking of iron, clad in singlet, or frequently stripped to the waist, in the manner shown in the illustration, "robbling" his molten metal for nearly an hour, until the iron is gathered from the dross, and then the collected metal, now cohesive, is drawn in ball shape from the furnace, as shown in the photo of puddler No. 2. From there it is taken to a sturdy shingler, clad in a suit of mail, and beaten under the hammer into a billet. It is then passed under rolls and rolled into puddled bars. This latter is again cut up, placed in slabs, heated once more, and beaten under the hammer again, and then rolled into sections. Of all the men who exemplify the curse of Adam in the iron trade the forgeman is the most pronounced example, and

*Photo., Mr. W. Macfarlane, F.I.C.*]

INGOT MOULDS READY FOR MOLTEN STEEL.

the puddler and shingler are the most superlative types.

But the manufacture of steel is gradually superseding that of iron, and the Patent Shaft Company are renowned for producing a fine quality of open hearth basic steel.

The manufacture of Siemens' steel differs materially from that of iron, and may be briefly described as follows:—

A quantity of hematite pig is placed into a furnace heated with gaseous fuel; or, in other words, the fuel is gas passing through ports which meets a current of air passing through other ports, and then ignites—the furnace being already hot. A long continuous tongue of flame then melts the charge. At the other end of the furnace are similar posts leading to the regenerating chambers. In due time, the currents of gas and air are reversed, and passing through the regenerating chambers and honeycomb of brick enters in a highly heated state the furnaces once more. When the first part of the charge is melted, hematite ore is added, and sometimes spiegel-resin, and, latterly, ferro-manganese, and eventually the right temper of steel is produced, when it is tapped into the ladle and run into ingots. The ingots are then placed in a soaking pit and finally rolled into sections, bars, or plates.

The producing of steel has given birth to a comparatively new race of Black Country toilers, who are known as steel furnace men and steel workers. These Trojans of labour are little less sinewy and muscular than the puddler and shingler, but are accredited with more intellectual capacity—at least in relation to their toil. In any case they possess muscles which bear a close analogy to the texture of the metal that they are instrumental in producing.

It may not be inopportune to state here that the P.S.A. Co. built the famous Tugela River bridge when the Boer war was in progress, establishing a world record for a minimum time in producing such a structure. They also built a famous bridge in Japan which withstood the shock of an earthquake, and called forth the eulogisms of the Mikado; and in every country in the world the rivers, gorges, and cañons are spanned by their magnificent iron structures. Even the pilgrim to the holy Benares crosses the Ganges on a bridge constructed in this hive of industry, and many of them are rolled into the sacred city on wheels and axles forged in the company's works. On the outskirts of Wednesbury are the famous chemical works founded by the Hunt family, but it is rather beyond the scope of the present article to describe this industry.

Physically, the ironworker is decidedly above the average, though they suffer from the limitations of exercise proscribed by their calling, but I shall be able to demonstrate this more clearly in my second article on Darlaston and Willenhall, where the nature of the trades have rendered, in certain instances, physical developments and peculiarities more marked than in the case of Wednesbury.

# Deformities and Disease Produced by Occupations.

By an M.D.

So intimately connected is the work of mind and muscle that any derangement of one reacts injuriously upon the other. Physical and mental combination must act harmoniously to achieve satisfactory results in common labour. The culture of the mind is only possible where culture of muscle is also duly regulated. Systematic exercises which bring muscle gradually (without sudden and excessive overstrain) into a perfect state of development is absolutely essential for the healthy performance of the natural functions of the organs of the body. If the brain is worked to the neglect of the muscular system, the circulation, which depends upon the action of muscle for aid, becomes feeble; less blood, and consequently less nutriment, for the repair of tissue is carried to the brain. The digestive system also is impaired, and cannot minister to the nutritive demands of the organism. Take men who follow sedentary occupations—the too studious student, or the city clerk. The neglect of moderate exercise induces in them dyspepsia, constipation, and all the unenviable train of symptoms associated with "indigestion." In addition to being "glued" to the office stool, the clerk is often placed in the pernicious atmosphere of a crowded counting house, or the dark region (might be termed dungeon) where the entering desk is generally located in city houses. The enfeebled clerk, whose work when in health, though possibly arduous, was performed without undue effort, has in his ill-health to execute duties to the same extent; the brain under the altered condition is overtaxed, and this new agency, mental overstrain, brings about a further deterioration of the non-cultured muscular system. Again, the modern work-a-day life, with its hurry, strain, and stress, involves millions of the community in the vortex of vicious nervous activity which perverts the mental and physical health. A combination of circumstances, such as the ambitions, hopes and disappointments of the artist, the gains and losses of the speculator, the bustle and barter of the man of commerce, the doubts and fears of the man engaged "on 'Change," the rush of the journalist writing against time, his late hours, the trials and troubles of the housewife; in each case several emotions, frequently conflicting, are in evidence inimical to healthy and steady working of the nervous system. They are generally designated and included in the nimble word "worry." Although one hears in answer to "don't worry" (a well advertised command on the part of a soap manufacturer), "I can't help worrying," it must be observed that the many injurious influences inducing excessive nervous activity are as much under the control of the will as are the actions of our voluntary muscles. Necessity demands that we should perform mental and physical labour, not only "that we may live," as the orthodox phrase has it, which is referable to "ways and means," but brain and muscle exertion is a

necessity for the healthy economy of the body, and it may here be noted that idleness and sloth, slackness and indifference, carry with them a pervertion of health and morals, which are every whit as dangerous as those deleterious agencies which are often *forced* upon us by certain occupations. There are "heroes in the arts of peace as well as of war," and civilization demands that we should pursue with open eyes many callings wherein dangerous and mischievous processes surround us.

It will be easily understood that sudden excessive demands on untrained muscle produce speedy fatigue, and it is in almost everyone's experience that, with this muscular fatigue, there is a disinclination for mental effort, so close is the relationship between the nervous and muscular systems. In transition from fatigue to exhaustion there lies but a narrow barrier and the cold hand of Death stretches out closely upon the heels of excessive exhaustion.

Occupations which demand intermittently violent muscular exertion induce physical overstrain, with all the injurious consequences of nervous and muscular incapacity, in a greater or less degree, according to the extent of the overstrain and its repeated production upon unprepared muscle. The obvious avoidance of such a condition is to keep the muscular system in a state of perfect culture. How often it happens that a young man leading a sedentary occupation who has not given a thought to his muscles, suddenly resolves upon joining the Volunteer force. With very little, if any, training he is called upon to swell out his chest and the numbers of his company to perform a route march, donned in all the weighty accoutrements of marching order. Is it any wonder if he suffers from physical overstrain? In numerous occupations certain sets of muscles are for long periods constantly performing complicated movements, and under special predisposing and exciting influences the muscles concerned become fatigued, their actions irregular and spasmodic, until ultimately they fail to effect the required movements. Such an undesirable condition is seen in what is commonly known as "*writer's cramp*" or *scrivener's palsy*. This muscular cramp or palsy, besides being frequent in those—as the name implies—who earn their livelihood by writing daily, such as clerks, secretaries, &c., often attacks also piano-players, telegraphic operators, cigar and cigarette rollers, &c. The disease occurs mostly in those men who possess a nervous and irritable habit of body, and who accentuate their nervous condition by neglect of muscular exercise, and consequently, the physical well-being of their bodies; added to these, there are other contributory causes depressing the nervous system, such as mental anxiety or business worry, which tend to throw out of balance the delicate combination of nerve and muscle.

There are occupations which demand the continuous use of the muscles of one arm and side of the trunk. Those of a weakly frame and whose muscles lack tone following such an employment soon betray untoward results. The muscles of one side of the body performing the particular labour abnormally develop compared with similar muscles on the other side of the body, the spine is curved and twisted to the side of the stronger muscles, the opposing muscles are quite unable to contend—as time goes on—with the altered relative strength, the distortion of the spine increases and leads to great and permanent deformity. So large an influence, then, has occupation on the human body, that not only are deformities produced, but many diseases are constantly associated with certain trades and pursuits, and as numbers of these come under the category of controllable diseases, it may interest and give food for thought to enumerate a few. How readily recognised is the old collier with his tattooed face—the result of wounds from falling coal—his bandy legs and warped and toil-twisted body? The use of the "pick" in a cramped attitude with the elbow used as a pivot by a skilled miner often produces a swelling in that region, known as "miner's elbow." Who

has not heard of a similar affection over the knee-cap of a housemaid? Has not Mr. Jerome K. Jerome demonstrated the absolute impossibility of the occurrence of "housemaid's knee" in a nervous medical student (of the sterner sex)? A condition known as "carpenter's knee" is often seen in the joiner who steadies a plank for the saw by pressure with the prominence of the leg just *below* the knee-joint. The shoemaker develops a pronounced hollow at the front and lower part of the chest through pressure of his last. The weaver is afflicted—as a result of his sedentary work—with a discomfort which, if it were possible, would lead him to follow his employment in a standing position. A malady, the nature of which is sufficiently indicated by the term, "saddle soreness," and which amounts almost to an epidemic in Yeomanry camps, is the bane of the trooper and the annoyance of the commanding officer. The glass blower unduly taxes his lungs by forcible expiration, and when years of daily overstrain is thus carried on, a great deal of the elasticity of the lungs is lost, a disease, emphysema, is the result. Players on wind instruments, who follow their art as a profession, are also prone to this loss of lung elasticity. Those who play on stringed instruments are not exempt from special troubles associated with their calling. It is recorded that harpists have lost the sense of touch in those parts of the fingers which strike the strings, through excessive and prolonged usage. Violinists have been known to suffer from paralysis of the fingers of the left hand. Decorative painters and plumbers frequently suffer from lead poisoning (lead colic and lead palsy). Looking-glass makers are prone to mercurial poisoning from the absorption of quicksilver used in their trade. Exposure to phosphorus in the match-making industry sometimes leads to disease of the jaw-bone ("phossy jaw"). Work which exposes the labourer to foreign matters, in the form of vapour or dust, induces diseases of the lungs. The stonecutter and quarryman inhale fine particles of stone, the knifegrinder particles of steel, the miner particles of carbon, hence we have "stonecutter's disease," "knife-grinder's consumption," &c. Occupations requiring prolonged standing lead to the deformity flat foot. Instances could be almost indefinitely multiplied in which occupation and disease are associated. Nearly every new industry brings with it its peculiar deformity or disease. A new pastime, motoring, has brought with it the "motor eye."

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Surely if we consider only the man, and consider him only as a bread-winner, the first demand from the home is that it should tend to his all-round fitness to win bread. But we must go beyond that. The father and mother and children should all be fit all-round, and should exercise and play—together, if possible—for part of the day. In no other way shall we so satisfactorily tackle the hushed problem which faces every father and mother, and teacher, and child, as by free intercourse between father and mother and child; and what is so free as play? We need all the bonds we can get between the parents and children, and among the best bonds is the search for health and pleasure. We find it as a powerful bond among animals. Play of the right kind is economical because it is healthy. It improves the appearance, the physical powers, the intellectual powers, the moral powers, and it has its social and domestic values.—Eustace Miles in *C. B. Fry's Magazine*.

# Sandow in South Africa.

EARLY in May last Mr. Sandow left these shores for "fresh fields and pastures new," the land he was bent on conquering to his great system of physical culture by personal contact being the latest of Great Britain's acquisitions—South Africa. Judging from the reports to hand his conquest has been complete; for, as in other lands which Mr. Sandow has visited and expounded his views, he has met with a reception which would do credit to royalty, and, judging from the enthusiasm shown everywhere, his visit should do much to strengthen the great cause of physical culture. Mr. Sandow is slowly but surely accomplishing his object by preaching the great value and imperativeness of adopting physical culture to the whole of the English speaking race, his campaign having thus far reached over Great Britain, America, Australia, New Zealand, and South Africa. Much remains to be done yet, however, before his end is gained and he has given the benefit of his advice and experience to the inhabitants of the kingdom on which the sun never sets.

Instead of, as on previous occasions, making an extended tour, Mr. Sandow has been confining his attentions to the two chief towns in South Africa, Johannesburg and Cape Town, as being the best centres; and as a means of making his views the more widely known, has been delivering his lecture on Physical Culture and giving demonstrations and feats of strength at the chief house of amusement in each city, in addition to giving private lectures to members of the medical profession and others interested in his system. Mr. Sandow entered upon his campaign at the Empire Palace, Johannesburg, on May 30th, and judging from the extracts from the Rand Press, his appearance has been one of the greatest events since the arrival in the town of Earl Roberts. Prior to his arrival the newspapers devoted columns to Mr. Sandow and his great system of physical culture, all of which are quite familiar to readers of his magazine and need not, therefore, be recapitulated. Accompanied by Mrs. Sandow and her companion, Miss Edward (the two little daughters remained behind in England), Mr. Sandow arrived at the City of the Rand from Cape Town on May 27th, and at the railway station met with a big reception. The *Rand Daily Mail* of May 28th, speaking of his arrival, expresses great satisfaction at the visit of "this marvellous man," who "has done more for healthy physical development in the last few years than all other strong men together, and has proved that strong men can be as intelligent and clever as the weaker man who devotes all his time to brain development, thus incapacitating his physical nature"; whilst the *Transvaal Leader* of the same date styles him "the perfect man" in the course of an interesting biographical sketch. On May 30th the first mentioned paper published an excellent article dealing with Mr. Sandow and his mission, from which we make the following extracts :—

"In coming to Johannesburg Sandow has two objects in view, the greater being to try and convert the people to a good cause—the cause of physical culture. He is particularly desirous of interviewing the authorities charged with the care of children, because he firmly believes that by building up and strengthening the body according to his system of training, the mind is also correspondingly benefited. Indeed, he is convinced that the moral standard becomes elevated as the body is scientifically developed. During his stay in Johannesburg he proposes giving lectures on physical culture to demonstrate this theory. Through-

out England, Australia, New Zealand, and the United States of America, Sandow's mission has proved an unqualified success, and the introduction of his splendid system has been exceedingly beneficial to thousands. In fact, his own wonderful physique bears eloquent testimony to the efficacy of his doctrine.

"The good effects of exercise are not alone seen in an all-round improvement of physique and the enjoyment of good health, and these in themselves are worth striving after, but there is a moral question involved. In the Book which most men revere on account of its great strength and beauty, and laws laid down for our guidance, there is a passage which dwells on the attitude of man in relation to his body. It is laid down as an important duty that man must build up his body as it is the temple of God. A man who possesses a healthy body should also possess a healthy mind, and it is the latter which governs action. Now, by exercise on scientific principles the mind is the most important factor which is brought into prominence, and as the body grows in strength, so also does the mind. The direct result of this is obvious. A man becomes morally stronger, his actions more evenly balanced, and temptations which once led him from the path of rectitude can, by pure strength of mind, be put on one side. In a word, character is being moulded on strong and beautiful lines. As both mind and body grow stronger a man can say no, and mean it. The moral side of physical culture has been treated by Sandow as no other exponent of body building has attempted to do. In all his works there seems to run that great and laudable ambition to create a healthy body and a sound mind, and a man with such lofty ideals is *amicus humanorum generis* . . . There can be no doubt but that the life's work of Eugen Sandow is being accomplished, and when man and woman thoroughly comprehend the blessings which accrue in the shape of good health and sound mind and body from the exercise of the Sandow system of physical culture, it will be taken up with that zeal and enthusiasm of which the man and his system are highly worthy."

Of Mr. Sandow's performance and lecture the Press was equally eulogistic and we may be forgiven if we quote from some of the reports as follows:—

"The Empire Palace was crowded to the doors and even the available standing room was fully taken up by a most enthusiastic audience . . . Despite the fact that a very excellent programme was submitted, it was evident that the audience were awaiting the *début* of the World's strong man and, indeed, this supposition was fully verified by the wild and enthusiastic cheering with which Mr. Sandow's appearance was greeted . . . It was a marvellous exhibition . . . His agility was no less remarkable than his strength . . . His body is the perfection of symmetry, but before his performance was concluded the latent strength of every limb and the combined power of the 'perfect man' were amply demonstrated," and so on *ad infinitum*, whilst several papers interviewed our chief.

On June 10th, Mr. Sandow was the guest of the Johannesburg Amateur Gymnastic Society, and the following account of the proceedings appeared in the *Transvaal Leader*:—

On Friday night, at Frascati's Restaurant, Market Street, Eugen Sandow, the apostle of physical culture, was entertained by the Johannesburg Amateur Gymnastic Society to supper. The room was tastefully decorated, and an excellent repast was served. Mr. Max Langermann (hon. president of the society) presided over about fifty members. The guest of the evening sat on the chairman's right, and among those present were: Messrs. W. Saphra, president of the society; A. Landau, and E. J. L. Platnauer, vice-presidents; B. Wieyra, instructor; N. Kallenbach (captain), Matthews (representing Wanderers G.S.), S. Caris, J. Lelie, G. Amm, G. Hartog, M. Reed, Rosenthal, Corrigan, Whyte, Welge, and Wiseman. The gathering

was a thoroughly representative one, and worthy of the leading gymnastic society in the Transvaal. After the good things had had full justice done to them, the Chairman gave the usual loyal toasts, which were right loyally responded to. He then proposed the health of the guest of the evening, Mr. Sandow. In doing so he adverted briefly to what Mr. Sandow had done in the interests of physical culture. That evening they had had the opportunity of observing what the practical exposition of Sandow's theories meant in their honoured guest. Speaking for himself, he said it was too late for him to take up physical culture. He required to strengthen his brain. In physical culture one could see the result on the body, but he ventured to say it was not possible to see the result on the brain. He asked them to drink Mr. Sandow's health. This was done with great enthusiasm.

OLD PHOTO OF MR. SANDOW, FOUND ON THE VELDT AFTER THE BATTLE OF DIAMOND HILL, JUNE 12TH, 1900.

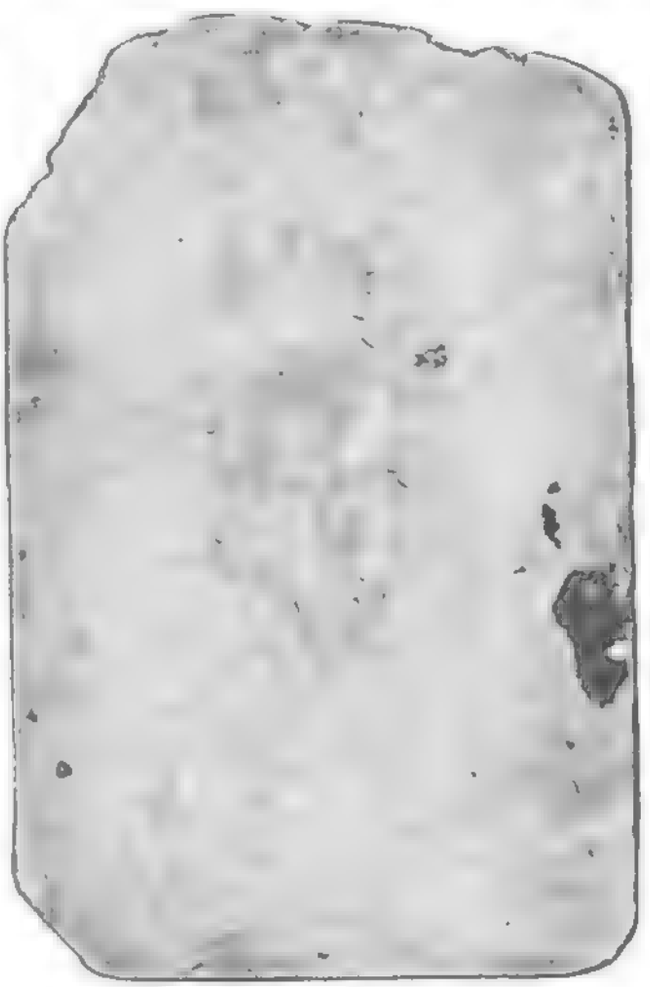
MR. SANDOW RESPONDS.

Mr. Sandow, after thanking Mr. Langermann for proposing his health, went on to say that he differed from him in his idea of what physical culture did for the brain. He reminded that gentleman that on the development of the body depended largely the health of the brain, for that had to be supported. The body produced the machinery for the brain. In an ordinary person the brain consumed 25 per cent. of the blood in the body, and in the case of deep thinkers and literary men this went as high as 50 per cent. To maintain the brain, therefore, the body had to be well fed, nourished, and developed; thus these persons required gymnastic training more than anyone else. He thanked the members of the J.A.G.S. for their hospitality and for the manner in which they had received him.

Mr. Platnauer then proposed the toast "Physical Culture." In doing so on behalf of the Johannesburg Amateur Gymnastic Society, he remarked that his club endeavoured to promote physical culture. They understood by gymnastics "the cult of harmoniously developing the body by means of exercises with or without apparatus." The objects of their gymnasium were to carry out these principles, principles the same as their guest tried to inculcate. Their instructor taught on that principle alone. In setting out an exercise he had two objects in view, the natural development of this or that part of the body and interesting the pupil in the work, thereby causing his pupils to use both physical and mental faculties. He ventured to reply to the chairman that he would find physical culture, whether taken in the privacy of his apartment on Mr. Sandow's

principles, or in the gymnasium under Mr. Wieyra, beneficial to his health and to his mind, for a great physician had rightly said that there was no portion of a person's existence when some form of physical exercise was not beneficial. He coupled the toast with the name of Mr. Sandow.

Mr. Sandow, in reply, said that he was very pleased to be afforded, in the company of those who had studied the cult, the opportunity of expressing his views on physical culture. For many years past he had studied scientific physical culture, and it had been, and would be, his life work to try and improve the standard of physical humanity in general. It had afforded him immense satisfaction to observe the great advance in this branch of culture during his period of activity. Physical culture, under a regular, organised system, was the keynote of success. Any man or woman who cultivated systematic habits of life would improve physically and morally. He congratulated the society on their present position in the gymnastic world, and the success they had achieved. He hoped that some day his system would become universal, and that the masses would be converted to his views. (Cheers.)



BACK OF THE PHOTOGRAPH, SHOWING BOER WRITING. (IT IS DATED 13.2.1900.)

### Government Aid for Physical Culture.

Mr. W. Saphra then proposed the toast of "Our President." He referred to the fact that he, a busy man, had devoted so much of his time to the improvement of physique, and to assist it. He gave them not alone moral support, but also practical support, and the present success of their society was due greatly to his efforts. He asked them to allow him to deviate somewhat from the subject of the toast. Although, he said, there were several good men in Johannesburg who did something for physical culture, the numbers were by no means sufficient considering the importance of the subject. They, as a society, met with a certain measure of success; that success, however, was due almost entirely to the exertions of their own members, and he hoped it would not be considered invidious if he mentioned a few names — Messrs. Wieyra and Kallenbach — (cheers)—men whose names were household words in gymnastic circles, who, for the sake of gymnastics, and with no ulterior motive, devoted time and ability to the furtherance of the cult. When they considered the thousands of men and women who followed sedentary occupations in this country, it was obvious that some means must be devised to give them proper physical exercise. Although many of these may in the privacy of their homes practise Sandow's training, yet people who had any knowledge of athletics were well aware that little could be accomplished unless

a systematic course was followed under a qualified teacher. That Mr. Sandow's system and gymnastics worked well together the fact that quite 50 per cent. of their best men practised both was proof. If they looked at other countries they would see what was done in the matter of physical culture. In all European countries subsidies were granted for the support and maintainance of gymnasia by the governments as well as the municipalities, and they devoted a great deal of thought to this matter. It was a matter for regret that nothing of the kind was done locally. In a country like theirs, where millions were required to carry on its business, the comparatively small sum that would be required for the purpose named would pass unnoticed, and he was bold enough to state that no money could be better invested. He suggested that if a few thousand pounds could be placed at their disposal—it could be safeguarded in the strongest manner—they could then offer inducement both to juveniles and adults to improve themselves physically, as was impossible at present. Surely it was patent to all that the physical development, and subsequent moral development, was as essential to the welfare of a country as its economical and political development. He trusted that what he had said would find an echo in the hearts of those persons who could help them.

Mr. Langermann responded briefly.

Mr. M. Reed proposed "The Committee," for whom Messrs. Kallenbach and Wieyra responded.

Mr. Saphra told the members that Mr. Sandow had informed him that he would give three medals for competition among the members. (Cheers.)

The meeting terminated with singing "God Save the King."

This was only one of many similar gatherings during Mr. Sandow's visit, which extended to the middle of July, during which time it was apparent on all sides that his influence was bearing good fruit, and when Mr. and Mrs. Sandow left for Cape Town many were the expressions of regret that his stay had been so brief.

On July 18th, Mr. Sandow commenced an engagement at Cape Town, and his reception in the great South African port will receive attention in our next issue.

In connection with Mr. Sandow's visit to South Africa, it may not be out of place to point out that he numbers many adherents not only amongst British settlers in the Colony, but also amongst the Boers. There was pathetic proof of this in the faded photo of Mr. Sandow which was picked up on the veldt by a lance-sergeant of the 2nd Coldstream Guards during the attack on Diamond Hill on June 12th, 1900. A reproduction of this relic has previously been published in the magazine, but under the present circumstances we feel that it will bear repetition in the hope that if the original owner be alive he may be able to recognise the photo, when we should be pleased to hear from him and substitute a later photo of Mr. Sandow for his lost treasure.

America may have beaten our best athletes at sprinting, but somewhere in Southwark there is a champion who can do what he pleases with them in the matter of "putting the weight." If, that is to say, the evidence of a witness in a recent assault case is to be believed. The prisoner, she said, picked her up, and threw her forty yards. And yet there are people who complain that the nation's physique is degenerating.—*The Globe.*

# Undergraduate Frolics.

By F. NEVILLE PIGGOTT.

THOSE who live outside the undergraduate world of Oxford and Cambridge would hardly credit the extent to which that young man's love of fun will carry him, and no doubt when perusing a few of the escapades enumerated below, many will be inclined to discredit them.

Although some of them certainly seem to border on the extraordinary and impossible, yet the writer can vouch for the truth of the incidents, many of which he has good reason to remember.

During the Long Vacation it is the practice amongst many of the undergraduates to remain in college for the purpose of continuing their studies, those reading for medical degrees especially following this course. And it is from this class of student that many of the "raggings," as they are termed, originate.

One college, especially, was blessed with some very lively spirits. University towns, from June to October, are like sleeping cities, and finding life too dull, the "boys" in question determined to make some excitement for themselves, so promptly set to work. The first night, or rather early hours of the morning, when all was quiet and the authorities thought everything secure, these venturesome individuals made a raid on the Fellows' garden. Here they found a flock of sheep grazing quietly. With marvellous patience these were driven one by one into the lavatories and secured. When, in the morning, it was discovered that the sheep were missing, there was naturally a great hue and cry, and the report circulated that a flock of sheep had been transplanted no one knew whither. Imagine then the surprise and chagrin of the authorities when the future mutton for the college table was found safe and sound. The incident was overlooked and forgiven as a boyish outburst, but when the Master and Fellows arose a few mornings later and made their way to chapel for morning service, they rubbed their eyes and gazed with surprise at that portion of the bell-tower where the weather-vane should be. In its place was a huge growth of the mushroom order, which upon investigation proved to be a cement barrel, which had been left about by some workmen engaged in building operations. How did it get there? The secret gradually leaked out, and it was afterwards discovered that one of the little band of desperadoes had ascended the dome by means of ladders, and having fixed the barrel, brought them away as he descended. How long it took to perform this feat was never made public property, but the fact that it took a workman a full day to reverse the order of things will give some idea of the difficulty of the performance.

This second night's work resulted in a warning being given to the undergraduates by the powers that be, but even this did not daunt them, and another expedition was determined upon. This time the college kitchen was visited. The colleges, it may be mentioned, are built in courts or squares, in the centre of which grass plots are laid, sacred from the tread of man, and woe betide the one who is found trespassing--a fine is his portion. Here, in the morning, was presented a peculiar and at the same time ludicrous sight, for the "boys" had removed from the kitchen every brass and copper cooking utensil that could be found, and ranged them with beautiful precision and

display around the "quad." This was the finishing touch. More than this human nature and the authorities could not stand, and forthwith the unruly ones were rusticated, But it is during the "May Week," or annual summer races, that frolic runs riot, and but little check is put on the exuberant spirits of the students.

It was during these festivities at Cambridge a few years back that a college crew succeeded in accomplishing the somewhat rare feat of making "a bump" during each evening of the races. To celebrate this performance, what is termed a "bump supper" was held. Afterwards, flushed with victory—and a little wine—a bonfire was suggested and acceded to with alacrity. A surreptitious visit to the college kitchen resulted in plenty of inflammable material and food for the flames being found, and on one of the sacred plots of grass already referred to the blaze was started. An alarm was soon raised, and the masters and fellows arriving on the scene attempted to extinguish the flames, only to be met and driven back by a volley of fireworks which had been laid in stock for the event. Try as they would, their efforts to quench the flames were useless. The fire blazed merrily until morning, and for many years the grass plot bore the marks of the night's work. With the morning came the reckoning, and several participators suffered the severe penalty of beng "sent down," the majority of them being the successful crew. That same evening, the procession of boats which follows the racing, and in which a large amount of horseplay is indulged in, took place. On this occasion the boat representing the college was manned by but two oarsmen, the remaining six seats being filled with placards explaining that their occupants were unavoidably absent, and for particulars one had to apply elsewhere.

In years gone by the "glorious fifth" of November was always looked forward to by the "rowdy" ones for a night's amusement which frequently was reversed in the morning. "Town and Gown" riots were frequent, and then as a brilliant finish a bonfire was the usual programme. This was generally ignited on the market place, and on one occasion, when the anniversary of the Gunpowder Plot took place on Friday, it resulted in the partial demolition of the market stalls which had been placed in readiness for the following day. The interference on the part of the Fire Brigade was severely resented, and considerable damage was done to their equipment through the cutting of their hose.

Yet another story of the extent to which the undergraduate will go in his frolic is well worth repeating, omitting names for obvious reasons, although no doubt many of my readers will be able to recall the facts.

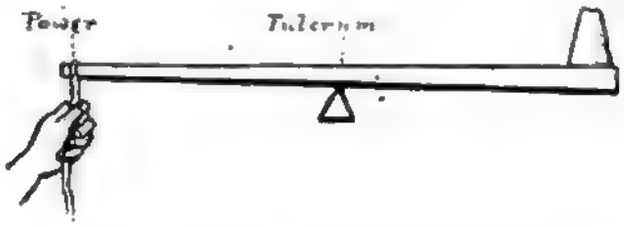
A certain celebrated politician visited the University and became the guest of the Dons of one of the chief colleges. In celebration of his visit he was requested to plant a tree in the centre of one of the aforementioned "sacred" quads. Imagine the surprise of the officials next morning, however, when they found the natural order of things reversed, and in the place of the promising branches of the tree appearing above ground, they saw the roots in their stead. Some undergraduate, whose political opinions were opposed to that of the august visitor, had during the night dug up the tree and reversed the order of things. The matter was kept very quiet, and the tree planted in its proper position again, but it was not allowed to rest in peace, for shortly afterwards it was again removed and securely affixed to the door of the Don who had entertained the original planter. Yet again it was transferred to its original position, and the self-same tree (so it is said) is flourishing exceedingly, after its many vicissitudes, in its original position.

Many more examples of undergraduates' frolic could be cited, but those mentioned are sufficient to give an idea of the extent to which these young men will go in the exuberance of their spirits.

# Muscle and the Mechanism of Movement.

By T. J. PRYCE JENKINS, M.R.C.S. Eng., L.R.C.P. Lond.

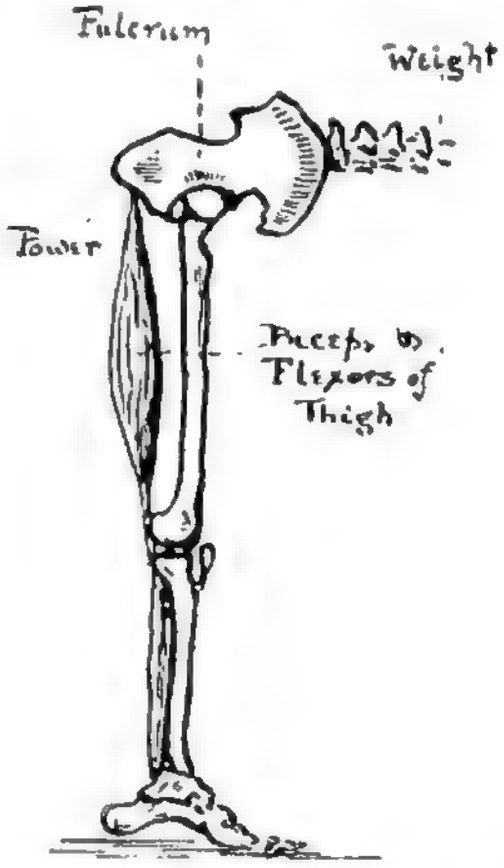
THE human body is the most perfect machine, or the most perfect combination of mechanisms, in creation. Man is the standard, the type and pattern of animal perfection. All living beings are classified in a higher or lower order according




LEVER OF THE FIRST ORDER.

to the degree of resemblance they bear to the human body. What would be thought and said if our standard coin of the realm, the English, sovereign were debased? How little is done to keep up the *standard*—to preserve the incomparable beauties of the *human frame*. Man, who rises supreme above all other animals in structure and mental capacity, exalted as he is by gifts of reason and understanding, how little he achieves in developing his inherent powers. Much is done, it is true, to increase bodily endurance and mental activity; much remains to be done. It lies beyond the scope of our subject to enumerate the methods of mental and physical education in vogue, or to discuss their value. It is well known that a nation's health is its wealth and strength, and we scarcely need be reminded of the oft-quoted phrase, "A healthy mind in a healthy body." A healthy body—the residence of a healthy mind—cannot be attained unless every part of its structure is well developed and maintained "in good working order."

Now, the structure of the human body is very complicated, and is built up of various materials called *tissues*. These *tissues* perform different kinds of work. Speaking in a broad and popular way, there are "tissues




HUMAN LEVER OF THE FIRST ORDER.

of digestion," which prepare and absorb the food taken into the body. "Tissues of excretion," which perform the duty of getting

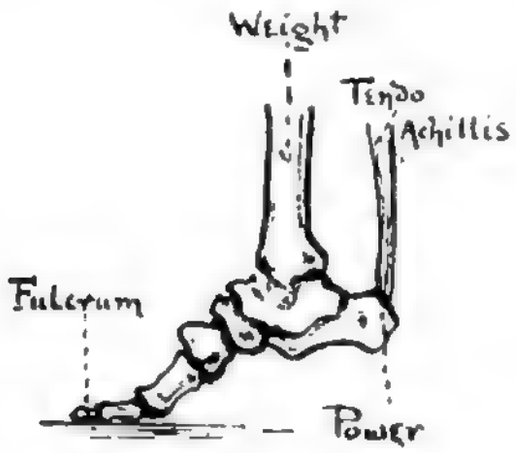
rid of the waste products. "TISSUES of MOVEMENT," whose duties are sufficiently obvious. Tissues are more definitely classified into bone, muscular tissue, nervous tissue, etc. These tissues are to a great extent arranged in the form of machines or mechanisms, and the working of these machines means MOVEMENT.

We shall presently see how the movements of the limbs by means of their muscles, bones, and joints resemble the mechanisms termed LEVERS.

The power of movement is in the body itself; one part moves on another, or the whole body is moved by its own motive power from one place to another. Though we may be lifted off our feet and swayed to and fro in a crowd, we are not ordinarily moved from place to place by any external force. We are not pushed hither and thither like a trolley; our movements are brought about by the forces in our own bodies. MOVEMENTS are carried out by means of muscles, directed and governed by nervous tissue. What is MUSCLE? The uninitiated mind has often a hazy, indefinite notion of what muscle really is. In a so-called "joint" of meat seen in a butcher's shop, it is the red, fleshy, lean substance that is muscle. Fat is not muscle. Erroneous ideas may be accounted for in this way:—When the flesh of an animal is exposed for sale, the muscles are often charged with fat. In this condition the meat is tender, nutritious, and palatable. The beast from which it has been obtained was prepared, fattened by liberal feeding and little or *no exercise*, for slaughter. On the other hand, if the muscles are examined of a draught animal, such as a horse which has used its muscles for heavy work, they will be seen to be tough and hard, containing no fat, and are therefore quite unsuitable for human food. The muscles of the horse have been developed by constant exercise. By development, it will be noticed that not only may the muscles be increased in size, but the texture and QUALITY is especially improved. A well-DEVELOPED man is not a magnified child; his height and breadth—or rather his size generally—is increased, it is true, but of far greater importance is the fact that all his tissues have improved in QUALITY.

LEVER OF THE SECOND ORDER.

Men following varieties of trades, or who delight in various pastimes, performing in these particular movements repeatedly, develop certain muscles or certain sets of muscles which are employed to produce these movements. The wielder of the sledge-hammer has "the muscles of his brawny arms as strong as iron bands." The "tipper," who day by day uses certain sets of muscles in tilting truck loads of coal, is a marvel as a weight-lifter, harnessed in a stooping attitude. The trapeze artist reveals prodigious strength in the muscles of his jaw, when by constant training he is able to support a colleague suspended by a padded hook clenched between his teeth. Examples of the development of particular muscles and particular sets of muscles could be enumerated indefinitely. How often, however, do we




HUMAN LEVER OF THE SECOND ORDER.

see *every* muscle of the human frame brought equally to a perfect condition of quality, size, and strength. And yet did we train our muscular system to the uttermost what weaklings indeed must we appear if compared weight for weight with insects. See the extraordinary strength of a common flea, it is such that it is capable of jumping two hundred times the length of its own body. Did we but possess the muscular power of a flea distributed through every fibre of our muscles, then from their immense size, compared with those of the insect, we should be capable with ease of taking a running leap across the Thames from Middlesex to Surrey.

The wasp can, with the power of its jaws, penetrate the hardest wood. Had we such power proportionately to our size, we should be able to chew telegraph-posts or railway sleepers with the ease that we now chew the end of a cedar pencil.

To return to the question—what is muscle? Muscles are made up of bundles of fibres. They are classified into two groups, those which act *independently of the will*, under a special nervous mechanism of their own (involuntary muscles), and those which act *under the control of the will* (voluntary muscles).

*Involuntary muscles* are distributed in the walls of such organs as the heart, stomach, intestines, etc. They are not under the influence of the will. One is not able to regulate the rate of contraction of the heart by will power. The muscles found in the walls of the stomach, which by their action churn and mix the foodstuffs taken into it, have to act without any guidance from our minds. We cannot in the midst of our hourly occupations break off and say, "By Jove! I've quite forgotten about the meal I recently took. Excuse me a few moments, I must attend to the muscular movements of my stomach." These movements are regulated for us involuntarily, and they even continue during the hours of sleep.

*Voluntary muscles* constitute the main bulk of the muscles of the body, they are under the control of the will, and are brought into action *at will*. These muscles, made up of bundles of fibres, may be attached directly to bones by their fibres or indirectly by the intervention of a *tendon* or sinew, popularly known as a "leader." The tendons are rounded or flattened cords, and some of them are easily felt at the wrist and behind the knee. As a rule, voluntary muscles are attached to a bone, cross a joint, and are attached to a neighbouring bone. Generally they cross a joint by means of a tendon; this provides for a greater range of movement at a joint. If the muscle fibres themselves crossed, the arrangement would be so clumsy that little movement would be possible, and the very factors producing action of the limbs would hamper themselves.

Muscles, on receiving impulses through nerves, have the great power of *contractility*—that is, they can contract—alter their shape.

When contracting, a muscle becomes shorter, broader, thicker, and firmer, it thereby brings its two ends closer together, therefore the parts to which its ends are attached alter their position. THIS constitutes MOVEMENT.

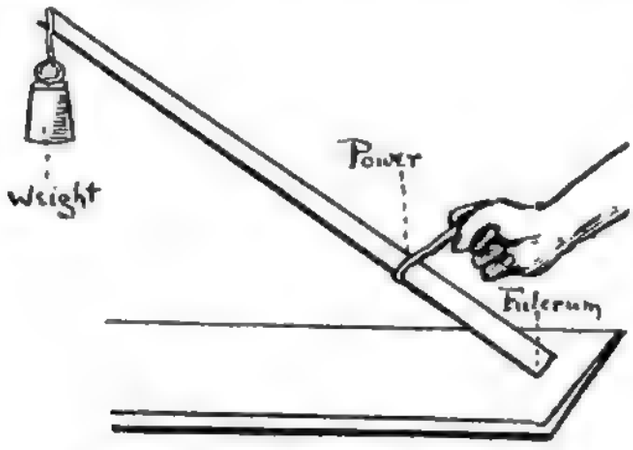
The biceps muscle (Fig. VI) so well known to us all, and which we were so proud of in our youth, may be felt when brought into action as a firm swelling. In contracting, it has become shorter, the *forearm* is thus brought nearer to the *arm* by the movement allowed by the elbow joint. Many of the movements of the body and limbs act on the principle of levers.

LEVERS are familiar to us all. The navvy uses his crowbar as a lever. We stir the fire, making use of the poker as a lever. The *weight* lifted is the coal, the point of purchase, rest, prop or support, termed scientifically the *fulcrum*, is where the poker rests on a bar of the grate, and the *power* is the force we apply at the handle.

The accompanying diagrams, together with just a few short explanatory remarks, may serve to illustrate the three orders of levers represented in the body.

The division of levers into three orders is

made according to the relative positions which the *power* and the *weight* occupy to the *fulcrum*.



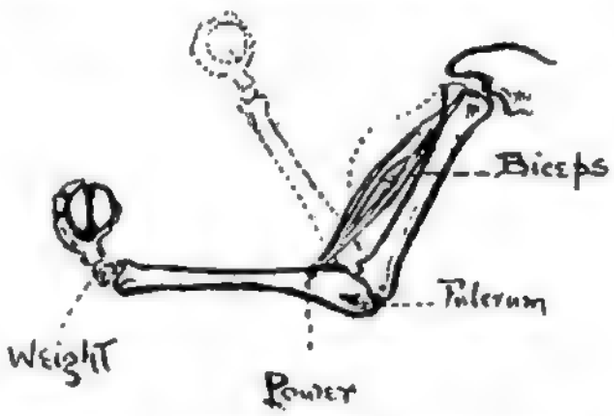

LEVER OF THE THIRD ORDER.

Fig. I represents a lever of the first order, and indicates the relative positions of the *power*, *weight*, and *fulcrum*. Compare Fig. II. When the body is bent in a stooping attitude, the muscles at the back of the thigh are found to be hard, and acting strongly to prevent the trunk from falling forward. It will be readily seen that the arrangement here acts like a lever of the first order. The attachment of the muscles of the back of the thigh forms the *power*, the hip joint is the *fulcrum*, and the trunk the *weight*. Figures III, IV, V, and VI are in themselves sufficiently explanatory to make clear the examples of levers of the second and third order.

Standing on tip-toe (Fig. IV), the whole weight of the body is raised by strong muscles of the calf, which are attached to the heel bone through a tendon or "leader," called the *Tendo Achillis* (Fig. IV). This "leader" is the strongest in the body, it is the one which has so much strain thrown upon it by the "première danseuse" who trips gracefully on tip-toe through the numerous gyrations of the ballet. Strong as is this tendon, it frequently breaks. When such an accident occurs to a ballet-dancer, her occupation is well nigh gone for ever.

The biceps muscle when in action shortens and thickens, occupying then (Fig. VI.) the position indicated in the diagram by the curved dotted line, the forearm and hand are consequently brought nearer to the arm. This is the mechanism of the movement popularly termed "bending the elbow."

It is noteworthy that muscles possess a certain amount of elasticity, and are set "on the stretch" in the body; in this manner they brace the bones together like so many springs. In this stretched condition they are ever ready to almost instantaneously obey the will. To use a nautical phrase, there is no "hauling in of the slack" before the movement required is immediately apparent when muscles are put into action. It is unnecessary to dwell on the benefits of physical exercises. Besides very many other advantages gained, training braces up muscle, making it taut and ready to obey nerve impulses, and by constant rapid usage the impulses are transmitted at




HUMAN LEVER OF THE THIRD ORDER.

a greater velocity; thus are produced well-trained athletes, who on the running track are seen to "stand like greyhounds in the slips, straining upon the start."

# "Health" on Physical Culture.

THAT excellent publication, *Health*, recently published the following poignant remarks anent physical culture :—

The splendid physical development of the professional athlete of to-day is a good illustration of what may be accomplished by any one, with careful attention to the little details of systematic training.

The key note to perfect physical growth, and for that matter the absolute necessity for good health, is strong, vigorous circulation.

The blood is the grand food supply for all parts of the system.

The bones, muscles, vital organs, brain, nerves, and even the veins, arteries, and the heart itself, depend upon the blood for a renewal of growth and strength.

When the circulation is strong and vigorous, and the blood goes bounding along on its mission of upbuilding and repair, everything seems to work together in harmony for health, and the largest possible degree of enjoyment and happiness.

When the circulation is slow or poor, the mind is depressed, the muscles weak, the nerves uncertain, and the entire economy of nature open to the attacks of disease.

There are certain principles, which, if properly observed, form a good basis on which to found a good system of physical culture.

The first and most important is in regard to breathing, and to the person who learns how to breathe properly, all the other steps in the progress of development seem to come naturally.

Without stopping to go into the full details of the important part that the oxygen of the air plays in the economy of nature, suffice it to say that it is nature's tonic stimulant to activity and change, and the more we get of it the natural way, and the more positive and regular we can make this supply the better it will be for us.

To breathe well means to breathe freely and deeply.

This can only be accomplished by standing erect in a comfortable and easy position, with the head up, the shoulders thrown back, and the entire muscular system of the limbs and torso in a certain state of alert attention. Then with an intelligent thought expand the chest and cause the diaphragm to descend.

This produces a cavity into which the air flows naturally, filling all the little air cells in the lungs and bringing the oxygen of the air into contact with the blood corpuscles; part of them, which are good, are revitalised, and part of them, which are bad, are destroyed and thrown off with the breath.

After inhaling deeply and naturally for a few moments, take a good deep breath and hold it for ten seconds, allowing it to escape naturally.

Then inhale again and hold for twelve seconds, being careful not to strain or produce any special discomfort; exhale slowly and carefully.

Then, with the head erect and shoulders thrown back, take a deep breath and hold for fifteen seconds, allow the air to escape carefully, and instead of allowing the shoulders to fall forward, try to make whatever of motion is necessary by a gradual downward or perpendicular settling of the entire upper part of the body.

This leaves a strengthened and invigorated condition that is very exhilarating and lively in character.

It increases circulation, stimulates muscular activity, equalises and gives tenacity to the nerves and places the entire system in a state of alert receptivity that is very pleasing and delightful.

Under such circumstances exercise is a pleasure, and exercise sends the blood bounding through the veins and arteries, bringing strength to the muscles, puts colour in the cheeks, makes the eye clear and bright, and life one grand sweet song.

# Exercise as a Curative Agent in Liver Trouble.

By ROBERT BESWICK, M.R.C.S., L.S.A.

IMPERFECT performance of the functions of the liver may be said to give rise to a very large proportion of the minor and many of the major disorders to which the human economy is liable. In what may be termed transient affections of the liver, however, exercise, combined with regulation of diet, is a powerful and comparatively simple factor in promoting a return to health. A very brief outline of the functions of the liver, even when the description is purposely modified for the benefit of the general reader, will suffice to show how any departure from the normal condition of this important organ at once causes an impairment of the general health.

The liver is the largest gland in the body, weighing in the healthy adult subject from three to four pounds. It furnishes a typical example of a secreting organ elaborating from the blood substances vitally necessary to the process of nutrition. The liver is placed in the path of the veins passing from the stomach and intestines towards the heart, and all the blood of the body passes through it before reaching the heart and passing into the general circulation. In its passage through the liver the blood has its constitution materially altered by the absorption and addition of various constituents. The bile is the most important of the products obtained by the liver cells from the blood. The quantity of this fluid poured into the intestines daily is variously estimated at between 2½ and 3½ lbs. It will be apparent that the blood supply will not long remain pure and fit to adequately perform its vital work of nourishing the tissues if the liver becomes unfit to carry out its important functions in the process of digestion and assimilation, and the imperfect discharge of these functions must produce considerable if not serious consequences to the general health.

The liver is not only an important secreting organ, but it is a great storehouse of food material; it is the natural reservoir for fat taken as food and not at once required by the system, this being stored by the cells to be parted with when necessary, as, for example, in starvation. In its normal condition it may contain four per cent. of fat, but under certain circumstances that quantity may be so greatly exceeded that the liver itself becomes capable of being readily burned. The liver, moreover, possesses a wonderful provision for regulating the food supply to the tissues.

As already indicated, the more common and simple disturbances of the functions of the liver may be said, speaking generally, to be readily removable by judicious exercise combined with suitable dieting. While the beneficial effects of exercise may be said to be produced mainly through the agency of the heart and lungs, it is obvious that the more thorough cleansing of the blood which attends the stimulation and strengthening of the respiratory system must react favourably on the more simple forms of liver affections,

bearing in mind the close and continuous relationship between the liver and the blood. A more abundant and better supply of blood must, in fact, assist the functions of all the internal organs, the result being to keep the body better nourished and to ensure the more rapid and complete removal of waste products.

Some people suffer from what may be termed constitutional biliousness, the liver in these cases, from its natural conformation, seeming to be just capable of carrying out its functions under the most favourable conditions, and giving the well-known indications of being overtaxed immediately on being put to any extra strain. Fatty liver, in which the organ is paler, softer, and more greasy than the normal, is, like the other condition mentioned, very common. It is generally associated with general obesity, and here again physical exercise is a method of treatment at once direct and simple in its nature.

In most cases of liver troubles, however, there is a certain reduction in stamina which may render violent exercise in some degree harmful, and any method having for its object the gentle stimulation of the functions of the organ, without causing undue strain on the physical powers of the patient, is entitled to receive sympathetic consideration from the medical faculty as well as from the public in general. I have had an opportunity of watching a number of cases, and this object appears to have been attained by the methods of Mr. Eugen Sandow, who has spent a large portion of his lifetime in perfecting his system of physical curative culture, and has been engaged for some time past in treating, among others, patients sent him by medical specialists from a central office in London, where the correspondence of his patients is handled. Eugen Sandow's experience has been very wide in treating cases of indigestion, constipation, insomnia, and nervous troubles; in fact, the medical profession are rapidly realising that the very best prescription for such patients is "a course under Sandow."

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The spirit of athletics is the spirit of competition; and competition—the effort of one man to outdo another, to wrest from that other a victory, a prize, an honour, that he wants—is not only an ethical injury, but is an irresistible temptation to over-effort and strain. Exercise when adapted to the strength and needs of the individual, is an excellent thing, a necessity to physical, mental and moral well-being. But that application of physical exercise known as "athletics" possesses few advantages and is characterised by many dangers.—*Health.*

"What we have to remember," says Dr. Macnamara, "is that 'the Youth of a nation are the trustees of Posterity'—as Disraeli told us long ago in 'Sybil'—and remember, too, that the real wealth of the nation is not its gold, its territory, its garners, or its bonded stores. The real wealth of the nation lies in the fibre of its people."

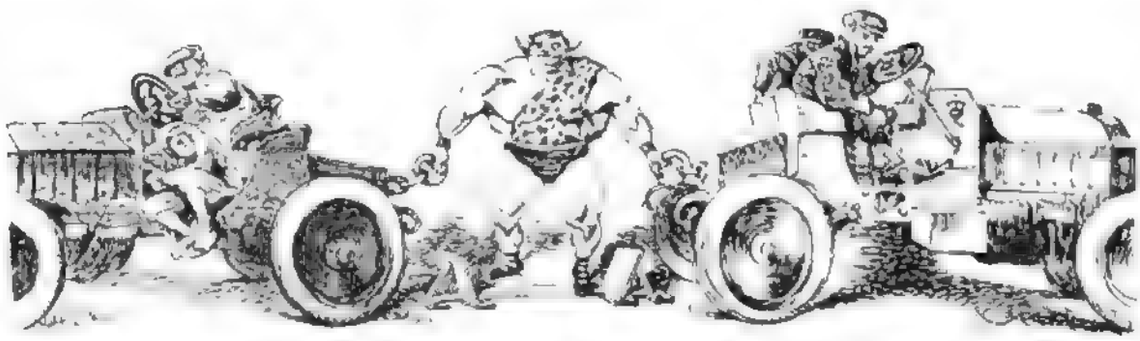
* * *

**"Better to hunt in fields for health unbought,**
**Than fee the doctor for a nauseous draught.**
**The wise for cure on exercise depend;**
**God never made His work for man to mend."**

—*Dryden.*

# A German Suggestion for a New Exercise for Sandow.

*DAS Schnanferl fliegende Blätter für Sport-Humor*, the leading humorous sporting journal in Germany, gives the following suggestion for an exercise :—



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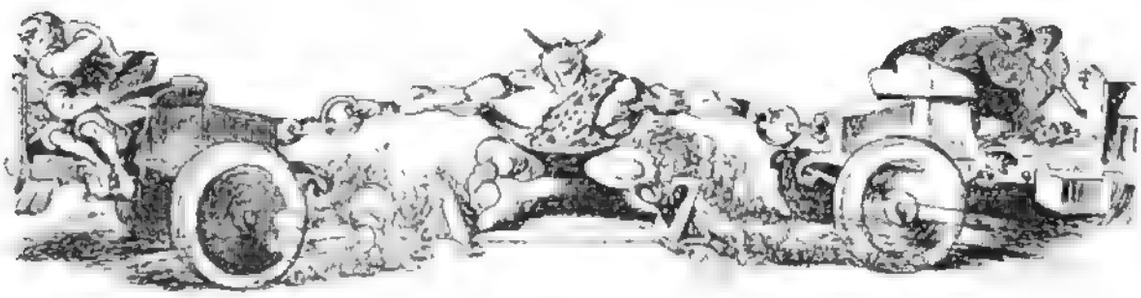

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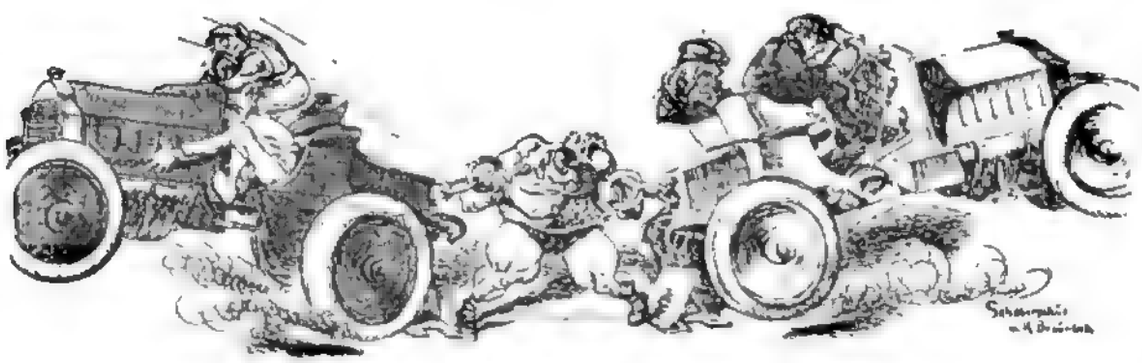

No. 3.

# A Fight for Life.

(A TRUE STORY.)

By N. FRANKS.

IT began as a joke—but it was as near costing me my life as a joke ever was.

It is many years ago since the incidents I am about to relate took place; but they are as fresh in my memory now as though they occurred but yesterday, and an involuntary shudder goes through me when I think how near I was to death on that Sunday afternoon in November, 188–.

Before relating the circumstances, perhaps I had better explain who and what I *was*. I say *was*, for things are changed considerably now. At that time I had barely reached the years of discretion—had I done so, probably this experience would never have been written. At nineteen I had been attacked by a malady, which even now is very prevalent, and had become "stage struck," with the result that I had thrown off the dull mantle of office routine to lead a life

"So roving, gay and free,"

—at least, so I thought.

But how different was the reality.

True, we had some jolly times occasionally and saw plenty of changes. But there were many ups and downs—the latter predominating.

All this preliminary statement is necessary for the purpose of explaining that it was not very surprising that my figure did not quite reach Falstaffian proportions. On the contrary, it was of such a shadowy character that the boys of the Shakespearean company with which I had cast in my lot christened me "the Ghost"; not so much because it was the part I was in the habit of impersonating when Hamlet was "put up," but owing to my slenderness.

To add to the weird effect of my appearance, I was in the habit of wearing my hair very long, and this, with the conspicuous clothing I affected, would probably lead a casual observer to suppose there was a "tile loose" somewhere.

Although my acquaintance with the profession had not been of long standing, still I had had plenty of opportunities of proving my versatility. Amongst other things, I had appeared in pantomime, and sustained, in addition to a "part in opening," the character of harlequin. It was whilst wearing the spangled dress that I learnt to accomplish what are known as "flying leaps," which, as everyone is aware who has been to a pantomime (and who has not?), are those jumps into obscurity—and the arms of stagemen behind the "flats"—in the chase between Joey and the Spirit of Mischief.

I will now proceed to state the facts as they occurred.

On this particular Sunday afternoon our company were journeying from the North to the great metropolis, by express train. We had already been on our way some time, and had arrived at Crewe, where a stop was made previous to the run to Rugby, our next wait.

With some of the boys I had been refreshing the inner man, and, giving little thought to the train, we were surprised to

find, as we left the buffet, that the carriages were already leaving the platform, gathering speed each second.

Our reserved carriages, which were in the front part of the train, had already left the platform, and visions of a wait at Crewe all night flashed through our brains, when someone said :

"Now, P———, give us an example of your leaping powers—take a flying jump into a carriage."

A first class carriage was passing at the moment, with a compartment apparently empty, but with the window down ; so no sooner said than done. Not dreaming of the consequences I ran forward, and, judging the aperture well, went clean through the window and landed safely inside.

I have said the carriage was empty, but judge of my surprise, upon arrival, to find my throat clutched as in a vice, by a pair of strong hands. I had not given a thought as to the effect my peculiar mode of entry and my personal appearance might have upon a stranger. Consequently, this attack completely paralysed me for a moment.

But only for a moment. The thought occurred to me that I might have landed on to a madman, and as we'd fully an hour and a half to travel, I concluded that unless I could reach the communication cord, or bring my assailant to submission, things were not very rosy for me.

I had landed after my leap on to my attacker's knees, so that he had the advantage of first grip. With both his hands round my throat, it was impossible for me to speak or move from the position he had pinned me on the floor of the carriage. It was by no means comfortable, and thinking over matters I decided to make a dash for liberty, and attempt to reach the communication cord.

Nerving myself for the effort, I struggled desperately, and eventually succeeded in getting on my knees. The stranger's knuckles were still on my throat, but I had managed to relieve the pressure somewhat, and continuing the struggle I at last gained my feet.

Night had already set in, and, with the poor mode of lighting carriages which then existed, we were in comparative darkness, and barely able to distinguish each other.

As the train dashed wildly on, the swaying motion of the carriage threw us, clutching each other, alternately from side to side. So desperate was the struggle we had barely time to get our breath.

At last I got a chance of fixing my man close to the side of the carriage which carried the communication cord ; but, to my dismay, found the window up. I dared not leave go, for that would have given him too great an advantage. My only chance was to break the window. But easier said than done. We writhed and struggled for some time, when at last my chance arrived, and——

Crash !

I had tripped up my man and sent his shoulders through the glass.

I had not gained my object yet, however, for I had yet to reach the rope over the window, and for this purpose had to let go my hold. Apparently, my assailant did not understand that it was my intention to call the attention of the guard and driver, but concluded that I was about to attempt to pitch him out of the carriage.

This caused him to renew his efforts to silence me, and I had to relinquish my idea of stopping the train, and commence once more my fight for life. I could feel myself gradually getting weaker in the face of my stronger and heavier opponent, and had quite lost all power of speech.

I was once more on the floor, and at the bottom, when I found my assailant was able to hold me in check with one hand, and to my horror he placed his disengaged hand into his pocket and produced a revolver !

I felt that all chance was gone, but determined to sell my life dearly, and as he fired at me, by one supreme effort I seized his arm, and sent the shot crashing through the roof.

I had seen the lights of a town ahead, as I thought for the last time, when——

Joy! the brakes were being applied.

As we drew up to the station platform, my unknown assailant's cries for assistance drew the attention of the officials to the carriage, which showed abundant signs of the protracted struggle which had ensued.

We were separated, and I was secured, but before I could get my breath to explain matters, some members of our company who had not been left behind came up to see what the commotion was, and recognising me through the blood and dust, assisted me to give an explanation.

Subsequently I learned that my leap had landed me into a reserved carriage, in which a bank official was travelling to town with a large consignment of cash, and thinking I was either a madman or a thief, he had merely, as he imagined, been defending himself and the property in his charge. Of course (after a wash and brush up) we laughed at the unfortunate misunderstanding, which, however, had nearly cost me my life, and I determined it should be my last harlequin's leap out of pantomime.

No doubt many of my readers will wonder how such a frail-looking specimen of humanity as myself was able to withstand successfully such a fierce onslaught so long. When I mention, however, that it had always been my principle to train my body by systematic exercise, followers of physical culture will readily perceive that my muscular system was in a condition to withstand the strain of a prolonged struggle, and it is to this, undoubtedly, that I have to be thankful for being able to now recount my unique experience.

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## HOW TO BE HEALTHY.

The above is the title of an interesting little pamphlet issued by the Glasgow Health Culture Society, which the secretary, Mr. Henry Spiers, has forwarded us. It is a most interesting little treatise, and one which should be widely read. It contains the following excellent remarks with regard to exercise:—

"Regular exercise is necessary to preserve the health. By suitable exercise the circulation is stimulated, carrying fresh rich blood to all parts of the body, and assisting in the removal of waste products; the heart is benefited; the respiration increased; the nerves toned up; the muscles strengthened and brought more under the control of the mind; the deposit of superfluous fat avoided; the natural balance between the brain and the body secured, and a general feeling of health and fitness gained.

"Neglect to take exercise results in stagnation with its attendant evils. Under modern conditions, with sedentary occupations, trams and other labour-saving devices, many fail to take that muscular exercise which is essential to the maintenance of good health. (Constipation, which is the direct cause of untold ill-health, is due to lack of muscular exercise, coupled with a badly selected and over-abundant diet, insufficiency of water drinking, and, in ladies, the wearing of corsets. The cure for this, as well as for other complaints, is not to be found in drugs, pills and patent medicines, but in the removal of the cause, *i.e.*, the adoption of regular exercise of the abdominal muscles, moderation in a suitable diet, and the free drinking of pure water.) All outdoor exercises are excellent, but they should be supplemented by a system of home training, which can be practised every day under any condition. This course should embrace the whole body, but particularly the chest, back and abdomen."

# A Shooting Trip in the Himalayas.

By GURKIR-PAL SINGH MANN.

WE publish with pleasure the following interesting account of a journey up the Himalayas, written by one of Mr. Sandow's Indian pupils, who has also taken the two photographs which accompany the article :—

FRESH SNOW ON THE HIMALAYAS.

"It had been long one of my greatest ambitions to visit the high and beautiful regions of the loftiest mountains in the world. But hitherto I had been deterred by a feeling of awe, which is inevitable when one intends to penetrate unknown regions, involving the additional dangers of mountaineering. It was due somewhat to this that I decided not to go very far afield. Some people think it not worth their while to undergo the inevitable hardship and inconveniences of travelling in, to them, unknown regions. Surely the pleasure of being freed for a time from the otherwise unavoidable anxieties and worries of civilisation and finding oneself, so to speak, in the home of nature, where

> 'Boon nature scattered free and wild,
> Each plant and flower the mountain's child,'

can far outbalance the paltry inconvenience of travelling. Here civilisation is left far

behind, and you find yourself, as it were, transported into another world. Then what can match the invigorating effects of the clear and pure atmosphere of the hills? Besides studying the wild and majestic grandeur of these regions, additional pleasure can be derived by chatting with the simple and guileless inhabitants round the evening fire, to hear the wonderful stories of their thousand and one deities, their snake gods and goddesses and demons, and in your turn astonishing them with the wonders of civilisation, with its railways, telegraphs, and cities, which to them breathe more of the superhuman and magic than actual realities. Many an afternoon have I thus spent, and the memory of their simple tales of superstition and their simple beliefs still inspires much pleasant retrospection.

"Early in October last I made a start from my tea estate, situated just below a lofty chain of mountains clad in eternal snow. The first stage was said to be about ten *kos*, which in the ordinary course would be about thirteen miles, but little did I know what a *kos* meant in the hills. The first stage made me a good deal wiser. A couple of hours' walk brought us to a village situated just below a lofty mountain, on the top of which towered pine and cedar trees looking like stumped bushes. Hitherto our way had led through wide fields of waving rice, clad in the golden hue of autumn. But now we were leaving cultivation, for the valley was far behind, and were entering the wilds. Our path now began to ascend the side of the mountain in a zigzag course amongst lofty oaks and green meadows, here and there specked with gold. Up and up we toiled till the oaks became fewer and fewer, their place being taken by pines, which in their turn were replaced by wild cyprus and cedar. Now and then we passed cascades of the purest and the coldest water as they went bounding down the precipitous course, with the sides clad with thickly-matted nettle tringals. We had toiled and perspired up the steep side of the mountain for seven mortal hours when, to our inexpressible relief, we found ourselves at the top. Here was the shrine of the presiding goddess of the ridge, consisting of a few stones piled together, with a small flag stuck at one side. Our guide pressed us to make some present, without which, he said, we should not find any sport; so, more to conciliate our guide than the deity, I made a present of a few pice.

"It was now close upon sunset, and a mist had been gathering up the side of the mountain, which now, far to the south and west, spread as a vast field of cloud just under our feet, extending as far as the eye could reach. Beautiful as such a sight would naturally be, it was rendered still more so by the varied hues presented with the sun setting below it, and the photo which I took scarcely does justice to the extraordinary scene. But as we had yet one *kos* to go, there was but little time to admire the fine panorama. By the way, this *kos* proved to be the longest, and reminded me of the Scottish 'mile and a bitok.' Having

'The toilsome way and long, long league to trace,'

we again made a start. The shades of night were fast descending about us, but fortunately we had a bright moon to help us, or we would certainly have lost our way, and might have found ourselves in much the same position as 'FitzJames' without the 'Lady of the Lake' to help us. It was close upon nine o'clock when we reached our destination. There was a small cottage at the place where we intended camping for the night. At the outset we were unfortunate enough to wake up a drunken peasant, himself a traveller, who began abusing us for all he was worth. But the state of his mind was not calculated to engender much ill-feeling on our part. Anyhow, he got a little 'correction,' and was quiet enough after that. The noise the fellow had made awoke the landlord, a civil and obliging man. We asked him if he could give us something to eat, but only potatoes were forthcoming. Even this, however, was a treat, for the wonderful air of these regions had furnished

us with keen appetites, and we felt able to digest anything. The potatoes were soon roasting in our camp fire for want of a cooking pot, and were scarcely given time enough to cook.

"Next day, our former coolies having left us, we were obliged to halt, and to make the most of our enforced stay I thought I might as well look up some game. A hillman, clad in dirty homespun, with a long rope of black wool tied round his waist as a girdle, said he would show us some pheasants, and possibly a musk deer. So Shikari and myself, with the guide, made a start. It was arduous work climbing a steep hillside in the rarefied air, and we could at best walk but slowly. Soon a magnificent old cock moonal was flushed. It was a beautiful sight to see him shoot down the nulla at a tremendous speed, the rays of the rising sun glistening upon his gorgeous black, greenish-blue and gold plumage. A cock moonal is about the most beautiful bird in creation. Unfortunately, for want of 'straight powder,' he escaped. Soon afterwards came its homely spouse, which was quickly bowled over. By this time we had reached the top of the ridge, and sat down to take some much-needed rest on lovely green and gold turf, mixed with wild strawberries. It being useless now to expect to sight any game until late in the afternoon, and our inner man having begun to remind us that it was time for breakfast, we made the best of our way back to camp, where we received the welcome intelligence that arrangements for supplies and coolies had been made, and that we could start early the next morning."

ABOVE THE CLOUDS (ON THE HIMALAYAS).

# The Physical Education of Girls.

THE following excellent article from the pen of Evelyn Spence Weiss appeared in a recent issue of the *Guardian*:—

The physical education of girls has been, and still is, a subject of some contention and much discussion. The last twenty or thirty years have seen a great development, and the popular standard as to what is necessary for health and grace has changed radically since the old days of backboards, when, in Thackeray's famous novel, Miss Pinkerton, of the Academy for Young Ladies, Chiswick Mall, says in her parting advice to her pupil:—

> "A careful and undeviating use of the back-board for four hours daily during the next three years is recommended as necessary to the acquirement of that dignified deportment and carriage so requisite for every young girl of fashion."

In reading the literature and novels of the early part of the nineteenth century, we realise the revolution that has taken place; homage is no longer paid to weakness as a sign of womanliness, nor is it considered indecorous for a girl to enjoy active exercise.

Some, indeed, are inclined to think that the pendulum has swung too far, and that the "over-athleticism," to which there is undoubtedly a tendency among boys, is rapidly becoming rife among girls.

Extremes are always more in evidence, and they are to be deprecated. Yet even in these days, if we consider carefully, we shall see that it is still necessary to urge the claims of physical exercise for girls. We listen to the constant discussion of hockey matches and golfing scores, and are apt to grow weary; but we must not forget that the observers discuss as keenly as the players, and only twenty-two actually take part in a hockey match. There is no harm in occasionally watching a match, but there are numbers of girls who are content to watch and discuss, and who remain aloof where actual play is concerned. They either neglect their opportunities, or the opportunities are not granted to them, the welfare of the many being sacrificed to the athletic renown of the school. Again, some parents are too ready to lay all the responsibility of physical exercise on the school, forgetting that in certain circumstances it is essential that they should take their share in securing healthy exercise for their children; or it may be that they are too much governed by ambition for the intellectual success of their daughters and are reluctant to encourage them to give due time to play.

Moreover, though it is usual to insist on some form of physical exercise for the younger children in a school, the examination work of the elder girls is often pleaded as an excuse for the omission of physical exercise from their time-table; and if it is left to the choice of the girls, their conscientiousness often misleads them into believing that all time spared from their mental work is wasted. It is still often forgotten by parents and teachers and girls that exercise, if not too violent, is the best tonic for a tired brain, and that too close application to mental study, without exercise, invigorating to body and mind, is likely to lead to diminished brain power, anæmia, and lowered vitality, though the results may be deferred and not immediate.

And what results can be expected? what benefits derived from well-ordered exercise in a girl's life? The physical effects of exercise are too well known to need more than a brief enumeration. Deepened breathing, quickened circulation which stimulates all the secretions of the body, more vigorous muscles, stronger nerves, greater vitality, and with these the negative effects fewer head-

aches, less backache, less anæmia. And a well-organised game or a good system of gymnastics should have equally valuable mental effects. If the exercise is not automatic, but requires skill and attention, the brain must be on the alert and the energies wholly absorbed; there can be no sleepy stagnation, and the higher centres of the brain are brought into play, such as muscular control, co-ordination of movement, observation, judging of distance, while rest is given to the special centres and faculties which are at work during intellectual studies. Walking, which is entirely automatic, is not the form of exercise most restful to a brain tired with book work, any more than it is physically sufficient for the needs of young people. The daily walk to and from school should not be pleaded as an excuse from further exercise. Actual growth of the brain substance takes place by the regulated use of the muscles, and it is a significant fact that physical exercise is found to be of great use and importance in the teaching of the feeble-minded.

Of the moral effect of games much may be said. Every teacher realises that the faults often attributed to girls—want of the power of co-operation, pettiness and small-mindedness, absorption in little details affecting their own narrow circle—do still exist there, though we hope to a less degree and far less generally than formerly. And games may be looked on as a factor working against these faults. To play successfully one must cultivate self-restraint and self-control, one must bear blame cheerfully and render loyal obedience to the captain, one must abstain from a stroke that would bring self-glory when another can give it more safely and surely. Petty jealousies and rivalries must be sunk, disappointment must be hidden, pluck and courage must be fostered. If at times we are offended by the muscularity and self-assertion of a few, and we notice regretfully boisterousness and lack of reserve, let us remember that these need not be the accompaniments of a love of exercise, and let us set against these occasional defects the quickened vitality, the exuberance of health and spirits, the joyousness and invigoration which come with hearty exercise and which prompt the cry, "How good is this life, the mere living." These are surely worth a great deal.

Let us now sketch out a scheme of physical exercise under competent supervision some what similar to the *régime* which already obtains in many of the best schools for girls. In the first place, a teacher and organiser thoroughly trained in the best methods has been secured. And here the opinion, based on experience, may be advanced: that of the various systems of drill and gymnastics, the Swedish is the most thorough and scientific, and if carried out under an able and competent teacher ought to yield satisfactory results. As Dr. Mosso says in his book on "L'Education Physique de la Jeunesse":—

> "La caractéristique de la gymnastique Suédoise présente un double aspect. D'abord la simplicité et le naturel des exercises. Ensuite sa tendance physiologique et hygiénique."

Such a school as we are considering has a large playground, where two or three games can be going on at once, and where older and younger girls can be satisfactorily separated according to their playing capacities. It is also provided with a large, light, well-ventilated, well-equipped gymnasium, and a mistress who has had a thorough two years' training is in command to teach the drill and gymnastics and to organise the games. Each girl has been examined on her entrance to the school by a doctor, and if there is any deformity or weakness the mistress for physical exercise takes special charge of her, and if she can be cured or strengthened by remedial exercises she is treated according to her need. Physical health is put first; that must be assured, and intellectual growth will follow all the more easily. Each girl has ten to fifteen minutes' drill and gymnastics every day as a break to the school work, and as a corrective of bad positions, and a gymnastic costume is worn, with loose sleeves and a

short tunic, for exercising in tight sleeves and tight clothing is liable to be worse than useless. A longer gymnastic lesson once a week is arranged for. Swimming is substituted for gymnastics in the summer, as it is an excellent exercise in itself, and the knowledge of swimming brings much enjoyment and may be of great use. Every day, or every other day, each girl has the opportunity of a good, hearty game—hockey, lacrosse, basket-ball, or goal-ball in the winter, and cricket or tennis in the summer—for no gymnastics can take the place of open-air exercise. Of these games hockey is, perhaps, the easiest to organise, and the outlay is small. Lacrosse is an excellent game, which has hardly had justice done to it in England; but the outlay is more than for hockey, and it is difficult to keep up interest in two winter games in a school, unless the number of girls from which to draw is large. Basket-ball has its peculiar advantages; it can be played in a smaller space, and can be more readily practised in odd minutes than most games, and it does not entail stooping. On the contrary, throwing the ball upward throws back the head. The games are always played in a suitably loose costume and short skirt, and provision is made for changing the clothes after games. The importance of changing is generally recognised in boys' schools, but it is only gradually coming into consideration in girls' schools in England, though this is not true of America. After the free perspiration which is induced by active exercise, it is dangerous to go home in the chill air (often by train or tram) without change of clothing, and rheumatism, colds, etc. (often attributed to the games themselves), are caused by neglecting this obvious precaution.

Some such scheme as the above, adapted to the varying possibilities and circumstances of different schools, would lead to a higher standard of health and vigour. Health and vigour and happy memories of

> "Those great days in the distance enchanted,
> Days of fresh air in the rain and the sun,"

are no small things with which to face the growing demands of life, and it should be our business to see that they are obtained as fully as may be without the sacrifice of one essential trait of womanliness.

## STATE AID FOR HUNGRY PUPILS.

A meeting of trades unions, temperance organisations, etc., was held recently in Trafalgar Square, the object of the gathering being "to demand State maintenance of children in the public schools," and the recent report on physical deterioration was frequently referred to, the arguments being that such deterioration must go on so long as children had to be taught upon empty stomachs.

Among the speakers were Mr. H. M. Hyndman, Mrs. Despard (sister of General French), Mr. Will Thorne, Mr. H. Quelch, Mrs. Bridges-Adams, and Mr. S. Elstein (who appealed in Yiddish to the Jewish element present).

A resolution was adopted calling upon the Government to institute legislation to provide adequate maintenance for the children attending the public elementary schools of the country, as a means of checking the physical deterioration of the poorer classes.

# Foolhardy Escapades.

By M. A. HUGHES.

WHAT some men will do for wealth or fame, or in some cases from sheer bravado!

It is not so much with the second of these heads that this article deals, in which category may be included such grand exploits as those undertaken by Franklin, Livingstone, Gordon, Stanley, and Nansen, in which cases the interests of science and love for their mother country were chiefly at heart.

But in this article the writer intends to confine himself more to those adventures which come under the first and last of the three distinctions, viz.: money and bravado. In many cases the latter term might be included with pluck; for although at times foolhardy, yet the writer has witnessed many feats (if they may be so termed) which, although done out of sheer bravado, needed a large amount of pluck to bring about their accomplishment. No doubt the prospect of gaining wealth is in most cases the reason for daring, although many instances may be mentioned where adventures resulting sometimes in hair-breadth escapes, and occasionally in loss of life, have been recorded.

As an example of the difference between pluck and bravado, it would not be out of place to recall the circumstances in connection with the Nelson Commemoration. For the purpose of decorating the Nelson Memorial Column in Trafalgar Square, a steeplejack was engaged, and during the time his work was being done attracted great attention from the thousands of wayfarers. The pluck required to carry out this work must be plain to all. Now for the other side. The ladders were still in position, fixed perpendicularly up the column, when two adventurous firemen attempted to scale the giddy height, and were with difficulty made to return. At the best this can but be termed a foolhardy escapade, as had they accomplished the task it would have merely been an opportunity for them to brag of their prowess.

Other cases in point are where an attempt is made to overshadow some previous performance in the hope, however, that money will accrue from the advertisement gained. An incident of this kind was where a man, who for some time past had been making a living by exhibition diving, sought to increase his popularity by diving from a train in motion as it crossed the Thames. The first attempt at this hazardous and foolhardy performance was frustrated by the officials, but a day or two later he succeeded in accomplishing his design. Another diver was not so fortunate, for he lost his life in the attempt to jump from the top platform of the Tower Bridge.

The Niagara Falls have proved a happy hunting-ground for men, and even women, seeking reputation, however brief, at the risk of their lives. Captain Webb's attempt to swim the rapids, unassisted by artificial aid, through which this fine athlete and hero of the Channel swim lost his life, is fresh in the minds of every one. Several others have made the attempt in various forms of craft, with more or less success, the latter predominating; whilst the late celebrated Blondin held the record for being the only man who had succeeded in crossing the falls by a rope stretched from shore to shore, with the

additional risk of carrying a man on his back. By the way, the position of passenger was most eagerly sought after, and fabulous sums offered; but Blondin had had a previous unhappy experience with a stranger who proved to be a madman, and consequently he preferred not to accept the tempting offers.

All these feats, of course, required exceptional nerve, but in every case they were performed with the primary object of increasing the exchequer.

The next instance is one which the writer is at a loss to classify, as, whilst the chief object was money, there was a large percentage of bravado as well as pluck in the incident, which was as follows:—The writer was staying at a hotel in a small Midland town on Christmas Eve some years ago, and with several townsmen was

enjoying a glass of hot grog in the smoke room. It was a bitterly cold evening and we were all seated as near the fire as possible, enjoying ourselves, when a poorly clad individual came in asking assistance. He looked frozen through and was not slow to accept our offer of a warm and "something hot." Entering into conversation with the man, we discovered that he had been a sailor, and since he left the sea had earned a poor living as a steeplejack. This statement caused some young fellows present to suggest that he should prove his words, and, if true, they would see that he had a good Christmas dinner and something else besides. The test was the ascent of the church steeple (which, by the way, is the loftiest in England) and fixing a flag to the weather-vane. The task at any time was a dangerous one, and at night, without appliances of any kind, was even more so. But the prospect of money was too much for the man, and, before one could realise the situation, he had left and was on his way to the church, the young men following, little thinking he would attempt the hazardous ascent. There being a service on the man had no difficulty in reaching the tower. The steeple has projections jutting out at intervals, and, barefooted, the tramp amid breathless excitement gradually crept to the top, where he was occupied some minutes tying the flag to the weather-vane. This accomplished, he started on his return journey, where one false step meant death. He reached the ground in safety, none the worse for his adventure, and, receiving his reward, left the town. Next morning the townspeople were amazed to see a Union Jack floating in the Christmas breeze from the top of the lofty spire. The bunting withstood many breezes, and, later, the same man again visited the town and offered to remove the flag for a bet. The wager was accepted and the man again made for the tower, but upon starting his climb found he had been forestalled. The police had got wind of the affair and had been lying in wait for their man. He was only released from "durance vile" on condition that he left the town at once, and up to now the feat, which at the best was a foolhardy one, has not been accomplished a second time, and the flag had to flutter itself away.

There are many other instances, such as fasting men, "hanging" men, and others, to make a living only to kill themselves in the end, who are even too foolhardy to receive attention.

## PHYSICAL TRAINING IN SCHOOLS.

A correspondent to the *Times*, signing himself or herself "E. A. H.," has some timely remarks to make with regard to this subject. Calling attention to the fact that owing to want of space in many schools, and insufficient ventilation, physical training must be defective, the writer suggests that the schools of London should be allowed to use the public parks and recreation grounds for drill and organised games at certain seasons and appointed times. The suggestion is a good one, but we would point out that a serious objection to this would be the time occupied in getting to and from the objective. The hint, however, that a day might be set apart for the performance of massed drill, reviews, and sports, is well worth considering if only from the good *esprit de corps* and spirit of emulation which would thus be cultivated.

# Our Ladies' Pages.

ON the question of making grimaces whilst exercising, *The Gymnasium*, in some remarks showing that exercise should, and does in most cases, improve the looks, says :—

"A habit that does much to spoil the appearance is grimacing. Some people are ready to 'make faces' at the slightest provocation, and have a facial pose for nearly every act they perform. These grimaces spoil our faces by imprinting lines; they make us look old before we need. We are not arguing in favour of the cultivation of an expressionless face; the expression of attractive thoughts and feelings makes one attractive; it is the exaggeration of expression that harms.

"If it is difficult at all to abstain from grimacing, it is more so still during physical effort, and that is why so many frown, screw up their mouths, bite their lips, etc., during gymnasium work. This is all very absurd, and much of it can easily be prevented. The gymnast should be ever on the watch, or even get a friend to look out for 'funny faces.' She must do what Eustace Miles writes about so often—learn repose; she must rest the face while using the arms and legs. Most women are careful not to crease their clothes; they must learn not to crease their faces. It is not difficult to learn. When young, we write with our tongues as well as with our pencils, but most of us learn better, and we can learn that we need not do gymnastics with our faces, because we are in a gymnasium. The matter is well worth a little thought, if we do not desire to possess a face capable of being mistaken for a chart of Clapham Junction, or for a photograph of the canals in Mars."

* * *

We urge the importance of deep breathing as a health-agent and beautifier. Every woman and girl should form a habit of taking so many deep breaths daily. The excuse of want of time will not hold good in this direction. Deep breathing can be done any-

where, and without attracting attention. We cannot well do our arm and trunk exercises in public, so if we rise late and have to leave for business in a hurry, our exercises may have to be omitted altogether for one day; but deep breaths can be taken on top of a 'bus or tram, or at odd times during the day without attracting attention, as the breathing need not be of the audible, punctured-tyre order. We admit, though, that persons who travel to business on one of the London underground railways are handicapped. Of course, there is no excuse at all for the fortunate (or unfortunate) who have no special business ties.

* *

One of the principal reasons, says *The World*, why our Transatlantic cousins have a much better deportment than Englishwomen is that they are continually exercising themselves either by gymnastic or breathing drill. It has been gradually borne in upon Englishwomen that physical culture is essential to a graceful carriage, a healthy complexion, and a good digestion. Of course it is a nuisance; no one likes to skip so many hundred times daily; no one really likes dumb-bell drill; "exercisers" are a weariness to the flesh, and fencing and swimming are not always possible, for the simple reason that one cannot fence by oneself, and that a sufficient expanse of water is not everywhere available. But every woman can learn to breathe correctly, and this is far more important than it sounds, and every woman can and should practise walking daily before a long mirror, correcting all the errors she can easily detect for herself. Some smart critic recently observed that a woman with a good "carriage" has the advantage of a woman who is merely pretty. It is certain that an awkward figure and an awkward gait heavily discount the most beautiful face.

* * *

Dr. Cunningham, Professor of Anatomy to the Edinburgh University, in his evidence before the Physical Deterioration Committee spoke hopefully of the improved physique of women, which he attributed to the absence of "pinched-in waists." He said:—

MASTER DONALD PARKER (AGED 2 YEARS).

"There are two other points that occur to me. The one is the feet and the other is the female chest. I think—and I think I can speak on this point with some little authority—that in both these respects during the last twenty years there has been an improvement. I do not see now (of course it is only the very low classes that I can speak of) in studying their feet the same amount of deformity that I used to see about twenty years ago. Then, with regard to the female chest, which used to be so shockingly distorted by means of the corset, not only in the upper classes, but also in the lower classes, there again I do not see the same amount of distortion. It is very rare indeed to meet with a female chest which is absolutely normal. It is one of the rarest things possible; but the amount of distortion I think has very considerably lessened. It is really a very long time since I have seen a chest which one would say was excessively

distorted from this cause. . . . No one, except those who know the anatomy of the thoracic and abdominal cavities can realise the important effect that it must have. . . ." Asked "What do you attribute that to—the increase in physical recreation?" Dr. Cunningham says, "I think it is largely due to the improved æsthetic taste of the people." "They do not tight-lace so much as they used to, you mean?" is the next question. "Yes," says the witness, "I think that the æsthetic taste is to some extent shocked now when one sees a spider waist in a woman." "May it be the fact that, owing to the outdoor exercises they indulge in now, they find the corset is an impediment to them?" asks the chairman. "Yes," says Dr. Cunningham, "that very strongly comes in. The young women have quite a different idea in regard to athletics and exercise from what they had in the first half of the last century." "But that would not affect the poorer classes, on which you based most of your observations?' is the last question on the point. "I think that it would," adds Dr. Cunningham, "because they follow the upper classes in matters of fashion. It was a surprise to notice how many of the lower classes had pinched-in waists."

* * *

Margaret H. Hallam, writing in the *Lady's Home Magazine*, on the "Secret of Youth," says:—

"It is certain that the woman who would retain youth and beauty must be healthy both in mind and body. The life of the modern woman is one perpetual whirl, morning, noon, and night, with the result that, exhausted and worn out, she flies to drugs and cures and gets patched up for a time; then she returns to her life of hurry and worry with redoubled energy, only to break down and be patched up again and again. If she leads a regular, healthy life, there is no reason why even a delicate girl should not be a joy to herself and other people as well. By a regular, healthy life, I mean a life in which a woman takes plenty of fresh air; enough but not too much exercise; wholesome, appetising meals at definite hours; eight hours' sleep at least; avoids *hurry* and *worry*, and does a few physical exercises daily after the morning bath throughout the year."

* * *

Master Donald Parker, whose photo appears in these columns, is the son of Mr. E. Parker, of Wakefield, a staunch follower of the Sandow system, and who in his letter says that—judging from the interest the boy displays in the various exercises—betokens another adherent to the cause of Physical Culture.

* * *

Dr. Savage, speaking at the meeting of the Colchester Nursing Association, said it would be better to teach the children of the working classes the elementary rules of health than to instruct them in Euclid and Algebra. At the same meeting, Miss Honor Marten urged that one cause of the deterioration in the national physique is the cramming of school children with lessons on numerous subjects at an age when they are not strong enough to stand the strain. These are points deserving serious consideration. We may add another—viz., the teaching of music and art to girls of the working classes before giving them proper instruction in cooking and other domestic duties. In these days one often comes across girls of from seventeen to twenty years of age who, while they can play the piano, do not know how to dust a room or fry a pancake. These girls expect to be married one day. Do we not here see the reason why so many marriages turn out unhappily?

* * *

# *AMUSEMENTS.*

## THEATRES.

ADELPHI—Every Evening, at 8.15, "The Prayer of the Sword." Mat. Sat., at 2.30.

APOLLO—At 8.15, "Veronique." Mat. every Sat., at 2.

CRITERION—At 8.30. Mat. Wed. and Sat., 2.30. Miss Ada Reeve and Company in "Winnie Brooke, Widow."

DALY'S—Every Evening, at 8, new musical play, "The Cingalee." Mat. Sat., at 2.

DUKE OF YORK'S—At 8.20, "Merely Mary Ann," by Israel Zangwill. Mat. Thurs., at 2.20.

GAIETY—At 8, "The Orchid." Mat. Sat., at 2.

GARRICK—At 8.30, Mr. Arthur Bourchier and Miss Violet Vanbrugh in "The Chevaleer." Mat. Wed. and Sat., at 2.30.

HIS MAJESTY'S—Mr. Tree—At 8.30, Shakespeare's comedy, "The Tempest." Mat. Wed. and Sat., at 2.15.

IMPERIAL—Mr. Lewis Waller—At 8.30, "Miss Elizabeth's Prisoner." Mat. Sat., at 2.30.

LYRIC—"The Earl and the Girl," every Evening, at 8.15. Mat. Wed., at 2.30.

NEW—At 9, "Beauty and the Barge." At 8.20, "That Brute Simmons." Mat. Wed. and Sat., at 2.20.

PRINCE OF WALES'S—At 8, "Sergeant Brue." Mat. Wed. and Sat., 2.15.

ROYALTY—At 8.45, "The Chetwynd Affair." At 8.15, "Eriksson's Wife."

SHAFTESBURY—At 8.15, Mr. Henry W. Savage's American Co. in "The Prince of Pilsen." Mat. Wed. and Sat., 2.15.

ST. JAMES'S—Mr. George Alexander—At 8.30, "The Garden of Lies." Mat. Wed. and Sat., at 2.30.

VAUDEVILLE—At 8.15, "The Catch of the Season." Mat. Wed. and Sat., at 2.15.

WYNDHAM'S—At 9, "The Duke of Killicrankie." At 8.30, Mr. Frank Lincoln. Mat. every Wed., at 3.

## VARIETY THEATRES.

ALHAMBRA—At 7.45, Grand Varieties. Up-to-date Pictures on the Urban Bioscope.

EMPIRE—Varieties, the Biograph, &c. Doors, 7.45.

LONDON HIPPODROME—Daily, at 2 and 8 p.m. An entertainment of unexampled brilliance. Managing Director, Mr. H. E. Moss.

OXFORD—Varieties. Always a good Company. Doors, 7.25. Sat. Mat., at 2.30. Manager, Albert Gilmer.

PALACE—At 7.45. The Finest Variety Entertainment in London. Manager, Mr. Charles Morton.

PAVILION—Varieties. The coolest and best ventilated theatre in the world. Doors, 7.30. Sat. Mats., at 2.15. Frank Glenister, Manager.

TIVOLI—Varieties. A Galaxy of Stars. Doors, 7.30. Sat. Mat., at 2.15.

## CONCERTS.

PROMENADE CONCERTS—Queen's Hall—Every Evening, at 8, Queen's Hall Orchestra. Conductor, Mr. Henry J. Wood.

NATIONAL SUNDAY LEAGUE—Every Sunday Evening, at 7, Grand Concerts at Queen's Hall and Alhambra. Secretary, Henry Mills, 34, Red Lion Square, W.C.

## ENTERTAINMENTS, &c.

CRYSTAL PALACE—Café Chantant, 3 and 7. Brock's Fireworks, Thursday and Saturday, at 8.30.

EGYPTIAN HALL—Daily at 3 and 8. England's Home of Mystery. Manager, J. N. Maskelyne.

HENGLER'S ROYAL ITALIAN CIRCUS, Oxford Circus, W.—Largest animal circus extant. Daily, 3 and 8.

# SPORTING PATENTS.

**In response to many requests, we have pleasure in announcing that we have made arrangements whereby each month we shall be able to place before our readers a Complete List of Patents relating to all Sporting Appliances.**

This List of Patents is specially prepared for SANDOW'S MAGAZINE by Mr. C. F. Ennis, of Jessel Chambers, 88, Chancery Lane, London, W.C., Registered Patent Agent, from whom all further information relating to patents may be had on application.

*List of Applications for Patents during August*, 1904 :—

16,896. F. J. Brown, London. Golf sticks, &c., and means for carrying the same.
16,924. C. T. Kingzett, London. Golf balls.
17,091. F. M. Savory, Cirencester. Handle for golf clubs, croquet mallets, &c.
17,148. E. Alexander, Liverpool. Physical exercising apparatus.
17,208. P. Cruickshank, Glasgow. Golf, &c., balls (complete specification).
17,266. P. Christa, Germany. Racquet (complete specification).
17,406. Auto Electric Rifle and Target Company, Limited, London (Automatic Target Machine Company, U.S.A.). Target apparatus.
17,410. Ditto.
17,417. G. A. Thorne, London. Apparatus for teaching billiard strokes.
17,496. A. M. Hubert Brierre, London. Means for stretching cloth upon billiard tables.
17,555. J. MacNeil, Glasgow. Golf, &c., balls.
17,586. J. Donkin, London. Mallets for games.
17,598. L. Tampier, London. Fishing hooks.
17,726. D. R. Downie and R. T. Hannay, Liverpool. Fishing hooks.
17,731. R. Riley, Birmingham. Targets.
17,819. A. E. Prosser, London. Hockey sticks, cricket bats, golf clubs, &c.
17,962. G. Hinchcliffe and T. Fazakerley, Sheffield. Fishing tackle.
18,030. M. Flanneau, London. Device for scoring and marking games.
18,074. J. Young, Glasgow. Detachable soles for golfers' boots.
18,114. F. Holland, Manchester. Targets.
18,161. P. A. Vaile and F. H. Ayres, London. Golf clubs.
18,205. H. Sandeman, London. Appliances (flag-pins) used for golf, &c.
18,486. T. Goulding, London. Cushions for billiard, &c., tables.
18,519. O. E. Lewis, London. Tennis and like racquet bats, &c.
18,521. G. E. Osmond, London. Apparatus for cleaning golf, &c., balls.
18,541. W. Sykes, Horbury. Making and stringing of tennis racquets.
18,622. H. Bennett, Blackburn. Billiard cues.
18,808. B. Kühling, London. Aiming stand for rifles and the like (complete specification).

*List of Specifications published during August*, 1904 :—

15,942 of 1903. E. T. Burrowes, U.S.A. Game boards, such as billiard boards.
16,128 of 1903. W. P. Thompson, Liverpool (J. B. Marston, U.S.A.). Golf balls.
17,154 of 1903. R. M. MacGregor, Greenock. Measuring instrument for use in the game of bowls.
19,132 of 1903. R. E. Pigott, Ireland. Spinning fishing bait.
19,921 of 1903. H. Vale, Birmingham. Detachable mask for converting ordinary spectacles into motor goggles.
20,316 of 1903. T. B. Barth and W. Kampschulte, Solingen, Germany. Chest expander or gymnastic apparatus.
20,429 of 1903. J. T. Peddie, London. Sights and fittings for small arms.
20,586 of 1903. W. G. Woolfrey, Kensal Rise. Elevating and revolving foresights for small arms.
21,684 of 1903. T. B. Barth and W. Kampschulte, Solingen, Germany. Gymnastic apparatus or exerciser.
7,704 of 1904. D. Jameson, Dartford. Means for straining and fastening cords, &c., applicable for lawn tennis nets.
11,566 of 1904. J. Savoie and E. C. Glines, U.S.A. Tennis racquets.
12,996 of 1904. A. I. Newton, Barnsbury. Ball punching apparatus for athletes.
13,350 of 1904. P. F. Jayne, Thornton Heath. Fishing devices.
13,929 of 1904. R. Hodgkins, Victoria, Australia. Golf ball and its manufacture.
14,701 of 1904. R. R. L. Morgan, Calcutta. Golf, &c., balls.
14,753 of 1904. J. W. Reid, London. Adapting breech-loading guns for practice with miniature ammunition
14,850 of 1904. W. J. B. Macdonald, Buckie, N.B. Golf club.
14,988 of 1904. G. H. Shepherd, Paris. Combined exercising and massaging apparatus.

# The British Patents Acts and the Novelty of Inventions.

*Contributed by* Mr. C. F. ENNIS, *Registered Patent Agent.*

OUR present system of granting patents is regulated by the Patents, Designs and Trade Marks Act of 1883, and subsequent enactments modifying the principal Act in certain particulars. The Act was intended to reduce the cost of obtaining patents and to bring the benefits of protection within the reach of the poor man, and generally to foster the inventive talent of this country. There is no doubt that, broadly speaking, the main object of the Act has been achieved. The reduction in the cost of obtaining a patent has, however, resulted in every one with an idea of some kind or another rushing to the Patent Office to protect it. This in itself would not have been a disadvantage, but owing to the fact that the Act of 1883 and its subsidiary Acts made no provision for any kind of search as to the novelty of inventions, one result of the operation of the present law has been that the same invention has been patented, wholly or in part, over and over again—a state of affairs hardly conducive to our dignity as the leading nation of the world. It would be impossible within the compass of a short article like the present to review all the suggestions and efforts that have been made to remedy this state of affairs, and it will be sufficient to say that the most important result arising from the issue of superfluous or superficially invalid patents, was the appointment by the Board of Trade, in May, 1900, of a Committee, which was empowered, among other matters, to enquire as to what steps should be taken to minimise this evil. The ultimate results of the findings of the Committee was that an Act, called the Patents Act, 1902, received the Royal Assent on December 18th, 1902. Parts of this Act have been operative for some time, but the operation of the most important and far-reaching section, viz., Section I, that relating to the novelty of inventions, had to be postponed owing to the necessity of preparing abridgements and organising a staff capable of dealing with the necessary examination. It is gratifying to learn that by virtue of the power given them by one of the sub-sections, the Board of Trade has recently issued a notice directing that Section I of the Patents Act of 1902 shall become operative from January 1st next.

The section provides that, in the case of future complete specifications, there shall be an examination through British specifications —other than provisional specifications— published during the preceding fifty years, and if it is ascertained that the invention claimed by the applicant has been wholly or in part claimed or described in any of such prior specifications, the applicant will be required to amend his specification or satisfy the Comptroller. If the applicant refuses to amend his complete specification, or does not satisfy the Comptroller, a reference to prior specifications can be inserted in his specification. The applicant can appeal to the Law Officer. The extra official fee for this examination will not exceed £1.

A further provision of this section, which inventors should not overlook, is that after January 1st the period of protection afforded by a provisional specification will be limited to six months, instead of the nine months' protection now obtaining.

It is difficult to say whether the new system of examination will be a success. The writer thinks that it will, because experience has taught him that the examiners of the Patent Office are not mere officials in the ordinary sense of the term, but are at all times open to reason, and where there is a doubt the applicant almost invariably gets the benefit of it. Other points to bear in mind are that the applicant labouring under a grievance, real or imaginary, has the option of appealing to the Law Officer, and that the reports of the examiners arising out of the operation of the section will not be open to the inspection of the general public.

There is one point upon which one can be positive, and that is that there will be fewer patents granted in this country than has hitherto been the case. This will be a blessing from every point of view, as it is obvious to the merest tyro that no possible advantage can accrue to any one by encumbering the register with a plethora of valueless patents which merely serve as so many monuments of misdirected and wasted labour. A further point about which one may be tolerably certain is that in future there will be fewer provisional specifications, as in view of the shorter period of protection, merely six months, the average inventor who is not in a hurry will prefer to avail himself of the alternative course of filing a complete specification with his application, with the attendant advantages of examination. If this turns out to be the case, the wretched plea of "disconformity," often the veriest quibble, will practically be a thing of the past. Viewing the possible results of the section from the creative aspect, as opposed to the destructive side of the question above referred to, it may be safely said that although the examination cannot from its limited nature be entirely satisfactory, it will, in the majority of cases, afford a certain amount of testimony as to the novelty of an invention, and it will therefore give a species of face value to the patent, enhancing its marketability and its monetary value. It is also to be hoped that it will to a not inconsiderable extent decrease the chance of a patent being contested, owing to the manner in which the complete specification and claims have been drawn or worded. No system of examination can possibly be conclusive evidence of the novelty of an invention, as we know that there is such a *contretemps* as prior user; and although one would not be rash enough to predict that the operation of the new provisions will be a complete success, even those who complain that "it does not go far enough" cannot help admitting that it is a step in the right direction. Whatever the shortcomings of the new system may be, one of its undoubted merits will be that it will not tend to increase the heavy premium already existing for the encouragement of infringement.

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Speaking at the annual distribution of prizes on the "Empress" training ship (Scotland) Sir Hugh Shaw-Stewart said that he had some little time ago paid a visit to the "Empress" in connection with the Physical Training Commission, and at that time he had been struck by the fact that ninety per cent. of the boys trained on the "Empress" turned out good men. He was sure that the present boys would not fall short, but would do their best to keep up the reputation of their ship. The boys gave an interesting display of physical drill.

* * *

The Earl of Warwick is of opinion that as we are endeavouring to improve the education of children, we ought, as far as possible, to attend to their bodily necessities, so as to enable them to take full advantage of the education provided for them.

# Reviews.

*HYGIENE and Public Health*—by Arthur Newsholme, M.D. New Edition—published by George Gill and Sons, Limited, Minerva House, Warwick Lane, E.C.; price, 4*s.* 6*d.* Just now, when the question of hygiene is occupying such a prominent place in the subject of physical deterioration, a new and enlarged edition of Dr. Newsholme's treatise is most opportune and acceptable. It is a very important subject, having regard to personal and public health; and the book, which has been recently accepted by the Board of Health as a standard work, deals exhaustively with the subject. Since the book was first issued it has been almost entirely re-written, and new chapters introduced, dealing with Dietetics, Trade Nuisances, Meteorological Observations, Tuberculosis, Disinfection, and Vital Statistics. In its new form the work will no doubt become a practical guide to all those desiring to become acquainted with the subject.

The chapter on Exercise contains many interesting facts. Having shown the great benefits to be derived from exercise in a curative sense, the writer points out that the muscles contain about a fourth of the whole blood of the body, and a very large share of the metabolism of the body occurs in them. "Hence the importance of keeping them in a healthy condition by exercise. The great danger is of not equilibrating the muscular and nervous functions. The ideal condition is where neither mental nor muscular culture is neglected, but both are co-ordinated to the production of a healthy man." Dr. Newsholme considers the question under six heads, and proves most conclusively the necessity for systematic exercise in promoting public health. After showing the beneficial effects of healthy exercise, the author deals with the bad effects of going to excess. "A walking tour entered on with more zeal than discretion, and not taken by easy stages for the first few days, is often productive of more harm than good. . . . Competitive exercises should be strictly regulated. The Oxford and Cambridge crews have been said to acquire heart disease more commonly than the average, but this is not correct. Hypertrophy of the heart may occur as the result of severe exercise, and this within certain limits is not an abnormal condition. Occasionally dilatation of the heart has been produced in weakly lads." In dealing with the amount of exercise desirable, the author gives some interesting figures, amongst them those of Houghton, showing that a walk of 20 miles on a level road is equal to about $353\frac{8}{3}$ tons lifted one foot, and that a walk of ten miles whilst carrying 60 lbs. is equivalent to $247\frac{1}{2}$ tons lifted one foot. He considers that every healthy man ought to take exercise daily represented by 150 tons raised one foot, but points out that it is impossible to lay down rules to suit all cases. In setting forth the effects of deficient exercises, the writer mentions the enfeebling and wasting of the muscles and the heart, which causes the circulation to be less perfect. Digestion is enfeebled, and the nervous system also suffers. "Nervous irritability is a common result, while sleeplessness—a thing almost unknown among those who live by the sweat of their brow—is becoming much more common among the worried and ill-exercised inhabitants of our towns. Many diseases are favoured by deficient exercise and can be averted by systematic exercise and the concomitant increased supply of pure air. It is often difficult to appraise the relative merits of exercise and pure air, but there can be no doubt that both are of extreme importance. The prevention of consumption . . . . is greatly helped by systematic exercises, especially those directed to the expansion of the chest cavity. In

cases of consumption there is commonly a history of deficient exercise or an occupation involving a cramped position as well as living in an impure air. Various deformities are induced by defective exercise of various groups of muscles. Thus drooping shoulders may be caused by shoulder-straps confining the action of the shoulder muscles in the earlier years of life. Stooping is favoured by sitting in cramped positions in school and by the use of desks not inclined at the proper angle. Lateral curvative of the spine is due to weakness of the muscles of the back. . . . The tendency to such curvatures is greatly increased in girls by the fact that their trunks are imprisoned in corsets, as if in splints, and so exercise of the trunk is reduced to a minimum."

Dr. Newsholme sets forth the following rules respecting exercise:—

"(1) The clothing during exercise should not be excessive and should not interfere with the free play of the limbs nor the full expansion of the chest. Flannel is the best material to wear next the skin.

"(2) Avoid chill after exercise.

"(3) Exercise should be systematic and regular.

"(4) The amount of exercise must be regulated by individual fitness.

"(5) Every part of the body ought to be exercised.

"(6) Exercise should not be taken immediately after meals.

"(7) Exercise should be taken as far as possible in the open air."

A most interesting chapter concludes with the description of the two forms of exercise, recreative and educational. There are other chapters which appeal particularly to those who desire to see an improvement in the national physique, and the volume is in every way interesting and instructive even to the lay reader.

* * * *

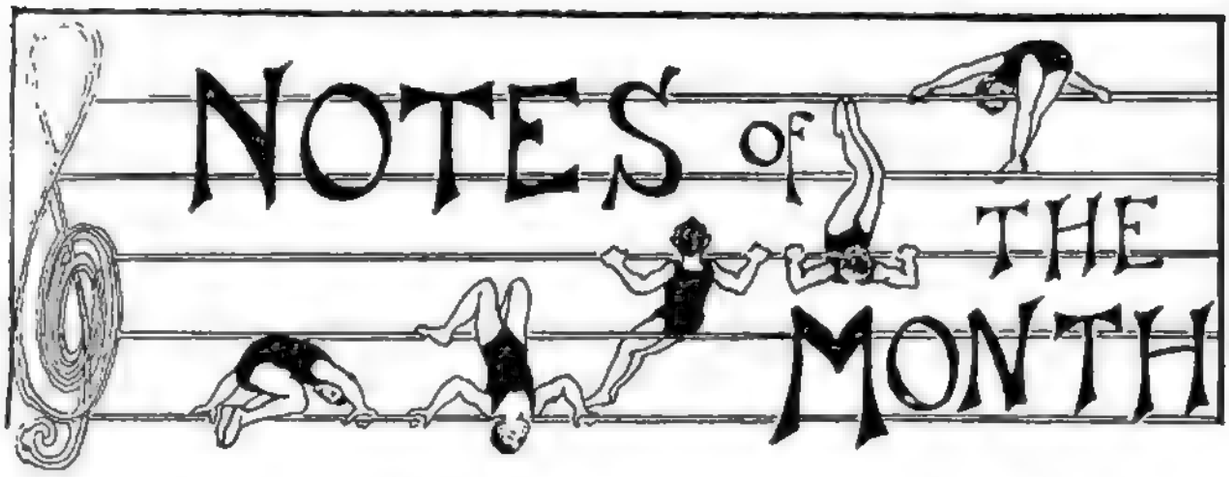
*Wrestling*, by Walter Armstrong ("Cross-buttocker"), published by George Bell & Sons, York House, Portugal Street, W.C., price 1*s*. Although to a great extent the interest taken in the old sport of wrestling, from a spectacular point of view, has died away, its influence has been felt throughout the country and the pastime has now a great many more adherents. Therefore a new and enlarged edition of the text-book from the pen of the best living authority on the sport comes most opportune. The book is very complete—every known style being treated, whilst there is also a most comprehensive account of the history of wrestling. The book is well illustrated, the photos explaining the various holds in lucid fashion.

* * *

*The Mystery of Breath*, by Asturel, published by the Talisman Publishing Company, Harrogate, price 2*s*., boards; 1*s*. 6*d*., paper. Whilst setting forth some arguments which we do not propose to discuss, there are some facts and statements contained in the book with which we are thoroughly in accord and which we are continually referring to in these pages in connection with the subject of proper breathing. For instance, Asturel points out in the preface that not one person in ten thousand knows how to breathe, and to that fact attributes the great prevalence of consumption, pneumonia, &c.

The author quotes the remarks made by Dr. Knopf who, when speaking at the Consumption Exposition in Baltimore, last March, said: "Consumption can be cured, even prevented, not by medicine, but by cleanliness and the free and unstinted use of God's pure sweet air. Consumption has never been inherited either from father or mother, but the child has usually been infected by its well-meaning but ignorant consumptive parents after birth."

The writer proceeds to explain clearly the great advantage to be obtained from correct breathing and the necessity for concentration whilst exercising. It is altogether an interesting work.




### A City Clerk and Exercise.

Mr. S. T. Bryant, of Finsbury Park, N., writes: "When I look from the top of the tram at the pale faces of youths going to work in the City, I think what a change it would make if ten minutes' exercise a day were indulged in by each youth. There are lots of cheap books on physical exercise. But how many people practise their precepts? I am a clerk myself, in a stuffy office, but I am in good health, for I exercise ten or twenty minutes every morning and evening, and follow it up by a cold bath."

Belgaum, India,
August, 1904.

Dear Sir,—I am sending you a tribute of success, the outcome of deductions from your splendid system.

Yours truly,
T. C. Oliver, Color-Serjt.

REGIMENTAL TUG-OF-WAR CHAMPIONS OF INDIA.

[P.S.—It will probably be information to you, in stating that "training" for Company Competitions abroad often out-does many that take place in Districts, or at the "Hall" at home.]

* * *

### Growth in the School Age.

Dr. Leslie Mackenzie, Local Government Board Inspector, Edinburgh, read a paper on "Normal Growth in the School Age." He said that for the general population of town and country the normal growth between five and six years was three inches; between seven and eight, one inch; between eight and nine, three inches; between nine and ten, under two inches; between ten and eleven and eleven and twelve, one and half inches; between twelve and thirteen, two inches; between thirteen and fourteen, two and a half inches; and between fourteen and fifteen, three inches. From fifteen upwards the rate of increase in height gradually slowed down until between twenty-one and twenty-two it was only a twentieth of an inch. The first great acceleration was towards the end of the first seven years, the second between nine and ten, and the third between thirteen and fifteen. That was to say, that at the beginning of school life, and at the end of school life, they had a great period of expansion. With girls the rate of increase was more uniform. Growth began to slow down at the age of twelve, and at the age of seventeen it had sunk to less than one inch in the year. The increase in weight roughly followed the increase in height. The two increases did not, however, move precisely together. There seemed first to be a spurt of growth, then a spurt of increase in weight. A great expansion took place in the years between twelve and sixteen. With girls the great expansion took place in the years between twelve and fourteen. Comparing with these averages for the whole country the averages for the labouring classes, they found that on the whole for boys of the labouring classes the averages even in the country were equal for the ages from five to ten, and almost equal for the ages up to fourteen. The number of observations, however, was very small, and little importance could be placed on the comparison. The female children of town artisans were distinctly below the average height at all ages up to sixteen. If, on the other hand, they took the professional classes in town and country, the heights of boys were distinctly above the average at all ages. Girls of the same classes were also distinctly above the average at all ages. As to weight, on the whole, the same relation held, the labouring classes in the country being about equal to the average, and the artisans of the towns perceptibly lower than the average. The same was true both of boys and girls. On the other hand, the professional classes came out distinctly over the average in weight, but the difference in favour of the girls of the professional classes was not so marked in weight as it was in height. Among the commercial classes of the towns it was found that the deviation from the average height was perceptible both in boys and girls. The increase, however, was not very striking; indeed, sometimes the commercial classes were even below the average. In weight, boys of the commercial classes varied considerably, being sometimes a little above the average, and sometimes perceptibly below. The girls, on the whole, approached to the average weights, but tended to fall a little below. It would be difficult to prove that the differences which existed arise out of a radical difference in biological capacity. It was probably due to a difference in economic conditions.

### Athletics and Health.

One of the commonest comments made by the public in reference to the domination of athletics over the youth of these countries and of America, is that a devotion to athletics is, as a rule, detrimental to longevity. The great physical strain undergone, say, in a boat race or a hard-fought sprint, is said to conduce to heart disease or heart weakness, and wiseacres are always ready to back up their opinion by a reference to "poor So-and-So," who, though the best oar of his time, died before thirty. Those, however, who have taken the trouble to investigate for them-

selves the after-history of athletes of note have usually come to a contrary opinion. In England an exhaustive inquiry into the health of past members of the 'Varsity crews has shown that their lives are, in an insurance sense, "good" much beyond the average. In the United States more recently Dr. Meylan, of the Columbia Gymnasium, has examined the lives of one hundred and fifty-two oarsmen who had rowed for Harvard in the forty years, 1852–1892. He was led to the task by the statement of an old rower that all the other men who had pulled in his boat had died young—a statement proved, on careful inquiry, to be entirely fanciful. Of the hundred and fifty-two oarsmen, one hundred and twenty-three are still living, and have most of them been interviewed by Dr. Meylan. Of those who died, six were killed in the Civil War, one in a railway accident, and one in a carriage accident—causes hardly to be traced to the ill effects of athleticism. Of those who died of disease, heart disease accounted for two, pneumonia for three, apoplexy for two, paresis (?) for two, cancer for one, phthisis for one, Bright's disease for two, alcoholism for one, while the causes in the other cases were not to be ascertained. Certainly from such a list it would be hard to trace any direct relation to athletics. An interesting point incidentally discovered by Dr. Meylan is that of the survivors not one has made a failure in life, and most of them have reached the class that was so frequently demonstrated to Martin Chuzzlewit, "the most remarkable men in the country."—*Medical Press.*

* * *

Mr. John Garner of 19, Windsor Road, Leyton, N.E., writes us to say that he has taken over the position of honorary secretary and treasurer of the Essex Weight-Lifting Club, 3, Queen's Road, Leytonstone, N.E., and that he will be glad to see old members and friends on Monday, Wednesday, or Friday evenings, 7.30 to 10 o'clock.

MR. EDWARD SATCHELL.

The object of the club is to promote physical culture, including weight-lifting, wrestling, boxing, etc.

The entrance is 1*s.*, and the subscription 20*s.* per annum, payable quarterly in advance.

The club is open to members for practice every week-day from 7.30 till 10.30 p.m. General practice nights: Mondays, Wednesdays, and Fridays.

Visitors and members' friends are cordially invited to inspect the club, but after having visited it twice it is respectfully requested that a definite answer be given as regards membership.

Honorary members will be elected at the minimum subscription of 5*s.* per annum.

* * *

We have great pleasure in reproducing two photos of Mr. Edward Satchell, of Tettenhall, Wolverhampton, who for the past eighteen months has been studying theoretically and practically the Sandow system with excellent results.

He has worked through each chart, exercising one hour per day, six times a week *regularly*. On January 31st, 1903, his measurements were :—

| | |
|---|---|
| Age ... ... ... | 18 years. |
| Height ... ... | 5 ft. 6 ins. |
| Weight (stripped) ... | 9 st. 12 lbs. |
| Neck ... ... | 13¾ ins. |
| Waist ... ... | 29 „ |
| Chest (contracted) ... | 35 „ |
| „ (normal) ... | 36 „ |
| „ (expanded) ... | 38 „ |
| Upper Arm (right) ... | 11¾ „ |
| „ „ (left) ... | 11 „ |
| Forearm (right) ... | 10¾ „ |
| „ (left) ... | 10¼ „ |
| Thigh (right) ... | 19½ „ |
| „ (left) ... | 20 „ |
| Calf (right) ... ... | 13 „ |
| „ (left) ... ... | 13½ „ |

His measurements now are :—

| | |
|---|---|
| Age ... ... ... | 19 yrs. 6 mths. |
| Height ... ... | 5 ft. 6 ins. |
| Weight ... ... | 10 st. 2 lbs. |
| Neck... ... ... | 15 ins. |
| Waist ... ... | 28 „ |
| Chest (contracted) ... | 34½ „ |
| „ (normal) ... | 37½ „ |
| „ (expanded) ... | 42 „ |
| Upper Arm (right) ... | 14 „ |
| „ „ (left) ... | 13½ „ |
| Forearm (right) ... | 12¼ „ |
| „ (left) ... | 11¾ „ |
| Thigh (right) ... | 21 „ |
| „ (left) ... | 21 „ |
| Calf (right) ... ... | 14 „ |
| „ (left) ... ... | 14¼ „ |
| Wrist... ... ... | 6¾ „ |
| Hips... ... ... | 36 „ |

Yours truly,

EDWARD SATCHELL.

### Mr. Eustace Miles on the New Course.

Mr. Eustace Miles, in an article in the *Daily Mail*, attacks the New Model Course, and subjects it to a severe criticism.

"In fact," he says, "it is not a Course. I would rather compare it with the French vocabulary of individual words, and the French "conjugations," out of which the child is supposed to build up a living unit, a French sentence, like a living branch out of some isolated dead leaves methodically arranged.

True, the new exercises include commencing positions, careful progression, safety for both sexes, development of some neck, shoulder, trunk, leg, and other muscles, some breathing exercises, some jumping and other exercises, at intervals during work hours. Good! But —well, it requires a very tactful and accomplished physical teacher to blend the parts into any sort of a whole, and the teachers have little time to study this extra art, and to add original variations.

As to the children from twelve to fourteen —for the Course is intended most for children of seven to twelve—they are recommended to use advanced exercises. What exercises? Only one book is cited, the Admiralty book, which is the alias of the Army book. Indeed, the new Course and the Admiralty exercises together contain all—every single one—of the exercises which were condemned some time ago as inappropriate for children!

It is not a pleasant task; it is a duty in the most usual sense of the word to have to say what I do; yet I feel that, among other reasons, the British People, as represented by its Government, ought not to let the proposed new Model Course be published as the best that can be devised by all the most enlightened and experienced of authorities on Physical Education. Fortunately for our national reputation, the new Course does not embody British knowledge or experience up to date. It includes many valuable hints, many safe and healthy elementary movements. But it is incomplete and, in my opinion, unworkable.

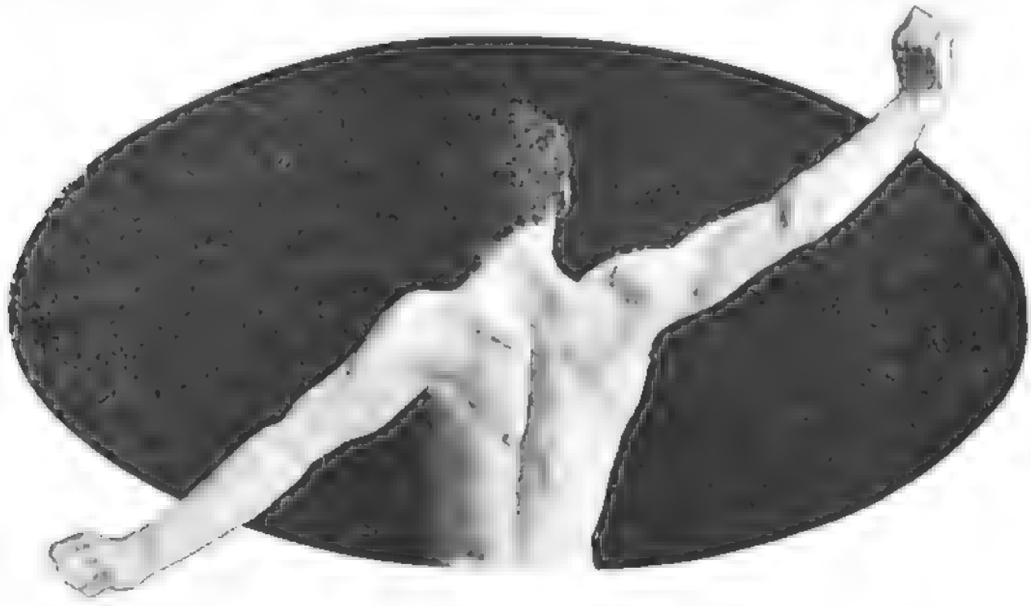
What do I suggest? Co-operation of leading doctors, leading expert teachers of all systems (including mixed systems, which are not the worst), leading athletes, leading theorists. The few who are responsible for so much of the work in this new Course did

their best; but I could myself name over a dozen teachers of the British systems alone who could and would have given invaluable advice had they been asked what were their experiences with thousands of children.

Since they were not asked, and since their views were passed by unnoticed, we cannot but regard the real "Model Course" as something vastly different from this one, namely, as the result of wide-minded co-operation."

### Skipping.

It is often said that the hygienic value of an exercise depends chiefly on the number of muscles which it brings into action. If this be true, and there is at least some truth in it, skipping should be especially useful, for there are few muscles which are not caused to contract by this mode of exercise. Dr. F. T. Bond of Gloucester has recently published a second edition of a little pamphlet entitled "A Plea for the More General Practice of Skipping by Adults as well as by Children as an Unsurpassed Form of Home Gymnastics." Dr. Bond's arguments in favour of skipping are mainly these: (1) that in consequence of the large number of muscles brought into action the circulation is stimulated; and (2) that it is capable of being graduated so that it may be intelligently regulated and gradually increased as the strength increases. It is a rhythmical exercise and therefore the number of skips forms a fairly exact criterion of the amount of exercise. Dr. Bond recommends skipping as predisposing to sleep if indulged in shortly before retiring to bed. He further advocates it in some forms of pulmonary disease where there are imperfect expansion and aeration of the lungs, such as in cases predisposed to pulmonary tuberculosis and in chronic bronchitis. In nervous diseases also, as in chorea and hysteria, he considers it useful. In some forms of heart disease also he thinks it may prove of value, but obviously the greatest care would have to be taken in employing it in such cases. It is a fact that some trainers have a high opinion of skipping as an adjuvant in the training of athletes, and it has certainly been unduly neglected by the public. Probably the chief thing that has militated against the more extensive employment of skipping is the loss of dignity which it necessitates, but this is a very small objection, for it can be indulged in in the privacy of the bedroom, provided always that the floor joists are of suitable strength. The practice of skipping enables a skilled performer to alight with the utmost



MR. EDWARD SATCHELL.

gentleness, so as not to disturb the safety even of a modern jerry-built dwelling. One great argument in favour of skipping is the cheapness of the instrument required. A few yards of rope will suffice, but for those who desire a more scientific and ornate skipping rope, the Sanitary and Economic Association (of Gloucester) has devised an appliance called a "Girbola," which is a kind of glorified skipping rope, the weight of which makes it easier to skip with. Employed intelligently skipping cannot fail to prove useful to many who cannot conveniently indulge in other more interesting modes of exercise.—*The Lancet.*

### Perth and Physical Culture.

On September 1st last Mr. H. Coates, Chairman of Perth School Board, formally opened the Youth's Social Club, which has been instituted in the old King Street School. Mr. Coates, at the outset, paid a well-deserved compliment to the enthusiastic efforts of Mr. D. Gardiner, the secretary, in the promotion of the club. There was no doubt that everyone indulged, in some sort of recreation, and if they did not have an opportunity of exercising that tendency in one place they would do it in another, and he thought the object of those who were concerned in getting up this club had kept many away from influences which were not so conducive to healthy recreation. He was perfectly certain that there were a great many lads in Perth who had only been waiting for a place of this sort where they could enjoy recreation, away from these influences. The opening of that building would mark the beginning of a new era in Perth. He looked upon their club as a movement of the greatest importance, and especially so as it was a movement which had sprung largely, if not entirely, from their own initiation. He congratulated them on the success which had attended the physical culture class, and mentioned that this particular matter was very much before the country at the present time. He thought that the very thing they wanted to counteract physical degeneration was just such training as they had seen that night, and he was delighted to learn that they had already enrolled a class of about sixty for instruction.

Prior to the formal opening an interesting display of physical exercise was given by a number of the pupils under the guidance of Mr M'Ilwhan, who is to act as instructor.

### Mr. A. Wylie, M.P., and Physical Training.

Speaking at Millburn Park, Alexandria, recently, when presenting the prizes at the Vale of Leven Cricket Club sports, Mr. Alexander Wylie, M.P. for Dumbartonshire, said that for a number of years it had been felt that in this country far too much time and attention was being concentrated on certain things, and that the physical training was being very much neglected. He was pleased to say they had been doing their utmost to get morality taught in the schools as well as intelligence, also to have the body looked after as well as the mind. His views were strongly confirmed by the Royal Commission appointed two years ago, which gave the appalling statement that 70 per cent. of the children in Scottish schools were not sound, and with a view of increasing the strength of the children in the Vale district, he had, a good many years ago, given a cup for the purpose of increasing physical drill and recreation in the schools.

### Aged Athletes.

The fact stated in the *Daily Express* that women who have passed three score years of life are taking lessons in swimming is illustrative of a general tendency on the part of people who are no longer young to perform feats such as would not have been dreamt of a generation ago.

Dr. Deighton's walk from Land's End to John o' Groat's at the age of sixty-one; the cycling tour from London to Berwick and back by an octogenarian, Dr. Harris; and Mr. Marle's task, yet incompleted, of walking

6,000 miles though he is seventy-six years of age—these are enterprises that have recently attracted considerable attention.

The cultivation of powers of endurance and the preservation of muscle have become habitual among aged people.

"We have numbers of them," a representative of Sandow's physical culture school said to an *Express* representative. "You can accept it as true that the value of physical training, either for purposes of health or pure athleticism, is more recognised by old and middle-aged people than ever before.

"One case I know is that of an Irish miller, who, at the age of sixty-two, takes boyish delight in carrying a sack of flour about his business establishment.

"A colonel in the Army, whose name you would recognise if I mention it, cycled with me, a month ago, from Eastbourne to London in a day, and again from London to Harrow and back within the same space of time. Yet he is seventy years of age.

"Ladies also are taking interest in muscular development. One lady, near seventy years of age, wrote the other day to say that her dumb-bell exercise provided the pleasantest hours of her life."

A leading medical man was also asked his experience on this subject by an *Express* representative.

"In all departments of exercise and sport," he declared, "men and women who are old only in years are taking an active part.

"I know a member of the English Alpine Club who, though certainly over sixty, has just reclimbed the Matterhorn. When spending a few days in North Wales last April I met a man over whose whitening hair seventy winters had passed. He had tramped over the highest peak of Snowdon, along an arduous mountain ridge, and some ten miles of undulating road. Hill climbing is a test of spirit, strength, and endurance."

### Physique and Athletics.

Writing on the question of the effect of athletics as practised generally, the Editor of a leading medical journal says: "To come to the effect on the physical development: Here the results are most baneful. A hypertrophied heart is a diseased heart—why not so with every other muscle of the body? I believe that athletics exhaust the potential energy of the organism, and that athletes do not enjoy longevity has been demonstrated many times. I will not speak here of the fatal accidents accompanying the games of football, polo, rowing exhibitions, etc. They are conspicuous, and known to everybody. But does anybody know how many young men go to ground from a dilated or an enlarged heart, as a direct result of some contest or match? I know a young man whose muscles are as hard as iron, who, towards the end of a rowing contest, fell down exhausted, remained unconscious for over two hours, and has been a physical wreck ever since, suffering from dilation of the heart. Is this a reward to be striven after? I would say to the presidents of our colleges and universities: Thick-skulled and hard-muscled youth is not an ideal to get enthusiastic over. If you want your idle, sporty and boisterous boys to become true students—manly, studious, and intellectual—then abolish sports! Insist upon moderate exercise, but out with 'athletics.' It works incalculable injury—physically, mentally, and morally."

### Educational Methods on the Health of School Children.

The Royal College of Physicians of Edinburgh have presented the following memorial to the Secretary for Scotland:—"That your memorialists have, through their professional experience, special opportunities to judge of the effects of educational methods on the health of school children. That your memorialists are satisfied that the present public anxiety as to the physical and mental effects of our increasing urban life on certain classes of our population has evidence to justify it, and that those evil effects might be largely counteracted by better conditions during school life. That your memorialists

cordially approve of the provision made in Clause 31, section 1, of the Educational (Scotland) Bill for the medical inspection of schools, and for the making of physical education a part of school training. They would respectfully press their view that the Educational Department should have specific powers over the local bodies to render the clause effective. That your memorialists desire to point out that medical inspection of schools, to be effective, implies the power of the medical inspector to examine into the health of the school children, and their capacity for education, mental and physical, and also into the school hygiene in a broad sense. That your memorialists are satisfied, from facts within their knowledge and experience that physical education on a scientific basis is needed in many of our city schools, and, if properly carried out, would greatly benefit the school children, and render their future lives more effective and healthy. That your memorialists respectfully urge that it is desirable that power be given to School Boards to ensure suitable feeding for the poorer classes of school children, who cannot otherwise secure this essential basis for all education."

### A Physical Culture "Farm."

A wealthy farmer in Germany is so enthusiastic over physical culture that he has started a physical culture farm, as it might be called. He has taken from various orphan asylums a number of children, from three to nine years of age, and is rearing them in outdoor life. He hopes to make of them strong young men and women.

In the summer the children wear porous linen shirts, reaching a little below their knees. These shirts are fastened with a loose belt at the waist. In the winter, in addition to this garment they wear trousers and jackets of the same material.

They sleep eight hours, but rise early in the morning. They begin the day with a plunge bath in a swimming tank situated near the house.

They eat mostly raw food: Nuts, fruits, cereals, salads with olive oil, whole wheat bread and milk.

They receive school instruction, but they do their studying outdoors, and they do not study more than three hours a day.

The farmer who has undertaken this experiment, expects to see these children develop into perfectly formed, strong, healthy specimens of mankind and womankind.

* * *

Bareilly,
India.

Dear Sir,

I have great pleasure in forwarding to you my photograph, showing my development. I must say that Mr. Sandow's developer and grip dumb-bells have made a man of me, as I was very small before I started to use them. When I left England for India I started improving my muscular development, in 1901, and I have kept it up ever since, during which time I must say that my health has been very much improved. My weight was 8 st. 7 lbs., now I am 10 st. 5 lbs., which I consider a great increase in a country like India.

Yours, &c.,
L.-C. A. E. V. Aldous,
1st Battalion Norfolk Regiment.

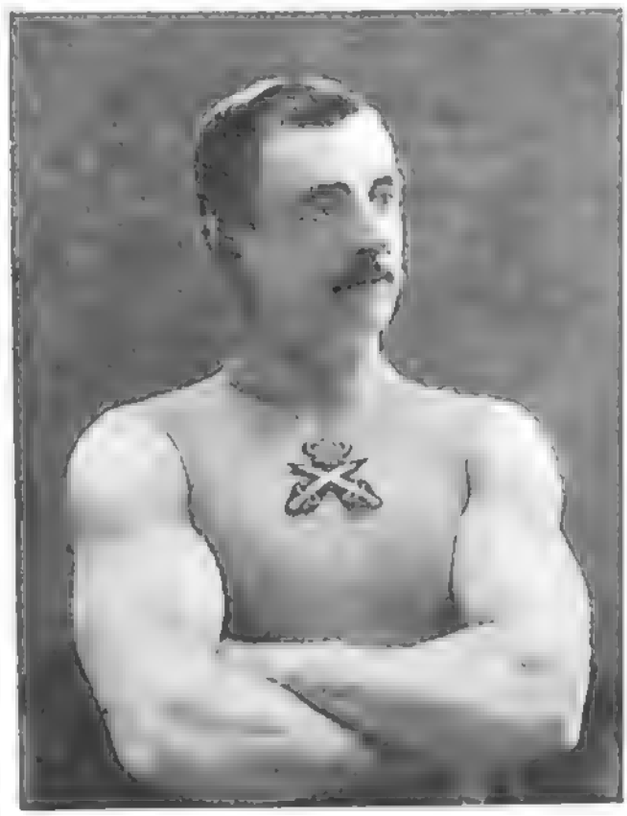
### The Wisdom of Swimming.

We teach in our public schools much that is useless for the true development of the mind, and, it may be, in many cases, actually damaging to the body. Our sins of commission are great, but our errors of omission are greater. At this season of the year the desirability of making swimming a compulsory part of school training is occasionally discussed, but the fact remains that a vast number of our school children are altogether devoid of any knowledge of the art of swimming. It is true that many excellent public baths are springing up in cities and urban districts, but the greater number of the smart towns and villages of our country

offer no facilities for swimming, and even opportunities for bathing for cleansing purposes are scanty. We contend that in the interests of the physical development of our people, and as a wise, prophylactic measure for the safeguarding of valuable human lives, swimming should be made a compulsory element in every public school education.—*Medical Press.*

* * *

Lord George Hamilton, M.P., when presenting the prizes at Dover College, referred to athletics, and said if an illustration of the object of physical proficiency were needed, they had it in the records of the present great war. The Japanese had set an example which every nation might well follow. Physical training had been brought to a higher state of perfection in Japan than probably in any country. In Japan their religion was patriotism, their creed love of country, and when Japan was called upon to face the great ordeal of war with Russia the splendid physical training of her race, their indifference to danger, and their intelligence enabled them to secure a series of naval and military victories which equalled anything recorded in history.



LANCE-COPL. A. E. V. ALDOUS (*Bareilly, India*).

### Irish Physique.

There is one quality in Irishmen which will generally be acknowledged. It is brought into prominence at this moment by a remarkable feat achieved by an Irish athlete at the St. Louis Exhibition. He won four firsts out of nine events in a general competition for some world's championship or another appointed by the American Athletic Union. This feat is a remarkable culmination of Irish successes in most branches of athletics. The race has a record which no other can approach in athletic proficiency, and perhaps half the reputation of Americans for athletic genius is due to Irish immigrants. It is not too much to say that the gross majority of exceptional jumpers and weight-throwers are Irishmen; and the record is the more remarkable as athletic meetings are not encouraged more in Ireland than elsewhere. The prominence is due only to exceptional perfection of physique; and it is an important argument in favour of Protection that it would help to restore prosperity to the agricultural occupations, which especially promote the physique of both Englishmen and Irishmen. It is a curious illustration of the talent of Irishmen for games that it should have emerged in the playing of so gentle a game as lawn tennis. Irishmen can still, as they could when Pym was champion, easily beat the world at this game. They are also beginning to come to the front in rowing.

### The Feeding of School Children.

This question has of late been the subject of considerable controversy, and is one which ere long will have to receive serious consideration. The following extracts from a letter from the Rev. E. C. Scobell, Rector of

Upton St. Leonard's, Gloucester, are most interesting:—"May I mention how, in a school of a hundred and seventy children, coming from a wide area on the side of the Cotswold Hills, nutriment, with the maintenance of parental responsibility, is supplied? Children who bring their food to the school for dinner may have half-a-pint of hot cocoa for a farthing. That this is much appreciated is shown by the fact that between November 2nd and December 11th last £1 0*s.* 3½*d.* was paid, representing a consumption of over sixty gallons. The profit was 1*s.* 2*d.*, which goes to provide kettle, &c. This has been customary for some years, and has twice been mentioned with approval in the Blue-books of the Board of Education."

The Rev. G. F. Nugent, Vicar of St. Martin's, Brighton, has gone even one better than this, for we learn that the reverend gentleman intends supplying his school children, during the coming winter, with breakfasts at a farthing each. Would that others follow his grand example.

## The Board of Education and Physical Training.

The following is the text of a circular which Mr. Morant, the Secretary to the Board of Education, has issued to the Local Education Authorities and Managers of public Elementary Schools:—

"The Board of Education commend to the earnest consideration of your Authority the various points of importance referred to, and I am to express the hope that early attention will be given to each one of the recommendations of the Committee as regards their bearing upon the course of instruction in physical exercises actually in use in the schools maintained by your Authority, and that your Authority will give suitable directions to the Managers accordingly. The Board of Education are in communication with various Training College Authorities with a view to securing that all students who pass out of the colleges shall in future, so far as possible, be qualified to give instruction in the course recommended by the Committee. But it is in the meantime extremely important that your Authority should take steps to place at the disposal of those teachers now teaching in the elementary schools, who are prepared to take advantage of them, some opportunities for training in the principles and methods of the new course. For this purpose your Authority may conveniently arrange for the provision of evening classes and Saturday morning or afternoon classes for teachers on the staff of the public elementary schools in your area. The Board of Education consider that the Syllabus should be adopted in all public elementary schools as soon as is reasonably possible. They think that without any great difficulty, courses which have been previously sanctioned by the Board may at once be brought into reasonable conformity with the course now recommended. Where any difficulty is felt the Board will be prepared to sanction the continuance of the scheme at present in use in any given school for such further period as may be necessary, as, for instance, in cases where it is requisite that teachers charged with this part of the instruction should have time to make themselves acquainted with the principles on which the new course is constructed and to become familiar with any details of exercises not included in their present course. Alternatively the Board would be prepared to sanction a gradual transition—a beginning of the new course being made in the classes of the infants and junior divisions only. But your Authority should carefully consider whether this plan would not really involve unnecessary labour on the part of the teachers. The Board attach great importance to the regularity and thoroughness which which physical training should be given. And they consider, in ordinary circumstances: (*a*) that at least one hour per week should be devoted to the formal lessons, such hour being divided into not less than two periods of thirty minutes each, or into not more than three periods of twenty minutes

each, and (*b*) that the recreative exercises should be daily and constantly practised, as recommended by paragraph 14 of the Report. In any case it is desirable that all teachers entrusted with this part of the work should make careful study of the considerations which should regulate the conduct of physical exercises as explained in the 'Introduction' to the Syllabus, and should also put in practice without delay those simple exercises referred to in paragraph 17 of the Introduction as recreative exercises. It is recommended that where possible a system of taking physical measurements of the children at regular intervals should be instituted. I am further to remind local authorities of the importance of making suitable provision for physical training, upon the general lines of the Syllabus in the pupil teacher centres and the secondary schools throughout their area."

### Glasgow Health Culture Society.

We have received from the secretary, Mr. Henry Speirs, 83, Cuthbertson Street, Govanhill, Glasgow, one of the pamphlets issued by the above Society, which is deserving of every support in its efforts to bring about an improvement in the national physique. The little work, which is entitled "How to be Healthy," sets forth the general views of the Society, and at the same time gives some very sound advice as to the best way to promote health, which, stated briefly, are, plenty of fresh air and light, a simple and well selected diet, regular exercise, and the liberal use of water outwardly and inwardly. We would advise all who are interested to write for the pamphlet. The Society, which has been formed to help forward the health movement, is endeavouring to attain its object by lectures, discussions, and demonstrations, which take place fortnightly in the Shepherd's Hall, Bath Street, Glasgow, by classes of instruction in scientific exercise; a circulating library of health books, and the formation (as opportunity arises) of clubs for the pursuit of out-door games and exercises. The meetings are open to the public, ladies being especially invited. The annual subscription to the Society is 2*s.* 6*d.*, and to the practical physical culture class 5*s.* 0*d.*

### Clothing and Physical Degeneration.

A correspondent to the *Daily Chronicle* says: "It has been remarked that, whilst the masculine physique is deteriorating, the feminine figure is growing taller and better developed. There is a certain well-defined reason for this difference, which is receiving little, if any, attention. Observation of above seven thousand children in our elementary schools, during a period of more than twenty-five years, has led to the conviction that the matter of clothing needs special investigation. Girls are clad in loose garments, which are frequently washed. Boys, on the contrary, are dressed in tight-fitting cloth or serge garments. These, in most cases, are never cleaned in any way from the time when first assumed until the day when they literally drop off. If it were made compulsory that boys should be dressed in loose, clean clothes we should probably hear less about the degeneracy of the race."

### The Duchess of Montrose and Hygiene.

Speaking at the Women's Conference in connection with the Glasgow Sanitary Congress recently, the Duchess of Montrose said that something was wanting in our educational system if ignorance prevailed in that most necessary branch of technical education—namely, the art of keeping oneself in health. If we assumed that physical degeneration resulted in a great measure from causes which were preventible—namely, from neglect of the laws of health, from the evil effects of overcrowding, from unsuitable food badly cooked, from sleeping in unventilated rooms—it was manifestly important that the science of health, which was too often neglected, should be taught, the rudiments of it at least, in every school and college. It was appalling to see the number of city children who suffered

from sore eyes and rickety bones; yet this deplorable state of things might be combated if parents understood more about health conditions and wholesome diet. No doubt the public mind was gradually awakening to the importance of physical instruction for the future men and women of the country, and probably in many schools such instruction was now being given. Much remained still to be done, and the teachers themselves needed more physiological and hygienic knowledge to enable them to carry out the teaching in a practical and efficient way. An important matter which received far too little attention in school life was the physical development of girls. It was distressing to see amongst girls of the poorer classes the round stooping shoulders and narrow chests which were prevalent.

* * *

Reonjhar State,
Orissa,
Bengal,
India.

Dear Mr. Sandow,

Whilst forwarding you a photo of myself, I desire to inform you that about five years ago a friend of mine induced me to take up your system, and since then I have always done so.

The chief reason I send you the photo is, that before I took up your system I was a "weed" and subject to severe attacks of malarial fever, though when I could I went in for the so-called athletics and even wrestling. In a few months, under the Sandow system, I received the satisfactory letter from you in which you said, "the increase in your measurements is very good and shows considerable work."

This gave me an impetus to work away at your system, and the result is apparent, notwithstanding the bad climate and life I have to lead as an officer of this State. My case shows what your system, intelligently applied and after the novelty has worn off, can do for the weakest of persons. I don't think I could ever drop it, especially as most of my muscles are under control and I can exercise them whenever and wherever I please.

I have gone through all your courses and my measurements are:—

| | Before Training. | At Present. |
|---|---|---|
| Neck ... ... | 15½ ins. | ... 17 ins. |
| Chest ... ... | 38½ ,, | ... 42 ,, |
| Chest (expanded) | 40½ ,, | ... 45½ ,, |
| Waist ... ... | 35 ,, | ... 34 ,, |
| Thigh ... ... | 22½ ,, | ... 25½ ,, |
| Calf ... ... | 13¼ ,, | ... 14¼ ,, |
| Biceps ... ... | 12 ,, | ... 15 ,, |
| Forearm ... ... | 11 ,, | ... 13 ,, |
| Height ... | ... 6 ft. 1½ ins. | ... 6 ft. 1½ ins. |
| Weight ... | ... 12 st. 2 lbs. | ... 14 st. 2 lbs. |

Yours, &c.,
D. A. Macmillan.

### Aberdeen Physical Training College.

The council of this college have not allowed much time to elapse before tackling the new model course, issued a few weeks ago by the Scotch Education Department. A holiday class for teachers, desirous of obtaining certificates of competency in teaching the new syllabus, has been commenced in the Gymnasium, 92, Crown Street, and at the close of the course an examination was held by Captain Alan Foster, the newly-appointed inspector of physical instruction under the Scotch Education Department.

### A New Calling for Women.

Among the most profitable new occupations for women is that of physical training instructress. Under the governorship of several well-known city clerics and public men, such as Alderman Sir William Treloar, a training college for ladies is being run in connection with St. Bride Foundation. The students must not be less than sixteen years of age, and must produce a medical certificate as to fitness before they commence a course of lessons. Two years of study are needed to enable a young woman to obtain the various certificates which prove her to be proficient in all the methods of developing

the body. In addition to drills and gymnastic exercises, the students attend lectures on anatomy, physiology, hygiene, voice production, ambulance work, and so on. A full course of instruction at St. Bride's costs £25 a term, and a fully-qualified instructress can earn anything from £100 to £250 a year.

### Medical Inspection of Schools.

One of the proposals of the Committee on National Deterioration was that there should be a medical inspection of all school children, on the ground that, in this way, many of the causes which tend to reduce the national physique would be removed. The Gloucestershire County Council to some extent anticipated this recommendation by appointing a short time since a Medical Inspector of schools and school children. The experiment has worked very satisfactorily. On the one hand very little objection has been offered by the parents to the inspection; on the other, it has been abundantly proved by cases of disease which have been brought to light by the medical officer that the policy pursued was a desirable one. We may assume that the example of the Gloucestershire authority will be widely followed as a consequence of the publication of the results of their action. Money spent in this direction will be well invested.

* * *

Much of the physical degeneration of which we are hearing so much just now is due to the fostering care bestowed upon the unfit. In the old days the weaklings were left to pay the penalty of their weakness and perished. Modern humanity makes the weakling its special care, and does its best to bring it to maturity and enable it to take a mate and present a large family of weaklings to the State.—*Mr. G. R. Sims.*

MR. D. A. MACMILLAN (*Bengal, India*).

### The Health Congress.

At the Annual Health Congress, Lieutenant-Colonel O. T. Duke made the Report of the Inter-Departmental Committee the topic of his address, as did also Dr. H. Beale Collins, of Kingston-on-Thames. Mr. J. H. Yoxall, M.P., the well-known representative of teachers, referred particularly to children in the public elementary schools. Whether or not there had been physical deterioration in the past did not matter very much, the main thing now was that the public mind and the public conscience had been aroused to the importance of the subject. They ought to have made much greater progress in the physical growth than they had done. A large amount of physical deterioration was caused by drink, and he deplored the tremendous development of the practice of drinking amongst women. He also considered that the national physique was very greatly affected by children being sent to school at too early an age. If a reasonable proposal with regard to children's eyes, children's teeth, or the testing of the general health of the children was made, and one step at a time laid before the public, it would do a good deal towards the improvement of the national physique.

Sir Chas. Cameron (Dublin) said the proper way to approach the subject was from the statistical point of view. His belief was that there was physical deterioration of the population, taking the whole country, but he believed with regard to every class of the population, taken by itself numerically, that there was no deterioration; on the contrary, the tendency was towards improvement.

Mr. Smith, of the *Lancet*, emphasised that the feeding of the children was the most important factor in the development of the race.

Alderman Welch (Eastbourne) testified that the children of former days were on the whole stronger physically than those of the present time. The teeth of children of a certain age in the schools at the present time were nothing compared to what they were something like thirty or forty years ago. He agreed with the suggestion that there should be medical supervision of the children in the schools.

After further discussion it was resolved, "That this section, being impressed with the necessity for the adoption of all proper steps for the improvement of the physique of the nation, desires to impress upon public authorities, central and local, the urgent importance of greater attention to the surroundings of the child, whether in the home or at the school."

* * *

Aden.

Sir,

It is with the greatest pleasure and heartfelt thanks that I acknowledge the benefit derived from your magnificent system of Physical Culture. I have now been using your grip dumb-bells for a period of twelve months in a very trying and undesirable climate, and can say with confidence that the benefit derived therefrom is most marked and satisfactory. I consider your splendid system one that can be recommended to all persons, especially those serving or living in tropical climates where physical training is so essential owing to the unbearable heat of the day, and the limited space of time for outdoor exercise. My measurements are as follows:—

| | Before Training. | After 12 months' Training. |
|---|---|---|
| Age ... ... | 22 years | 23 years. |
| Height ... ... | 5 ft. 6 ins. | 5 ft. 8 ins. |
| Weight ... ... | 12 st. 8 lbs. | 13 st. 6 lbs. |
| Neck ... ... | 14¼ ins. | 16½ ins. |
| Chest (contracted) | 39 ins. | 44 ins. |
| „ (expanded) | 41 „ | 49 „ |
| Upper arm (right) | 13½ „ | 16¾ „ |
| „ „ (left) | 13½ „ | 16½ „ |
| Forearm (right) ... | 12¼ „ | 14¼ „ |
| „ (left) ... | 12¼ „ | 14¼ „ |
| Waist ... ... | 36 „ | 33 „ |
| Thigh (right) ... | 22¼ „ | 24½ „ |
| „ (left) ... | 22¼ „ | 24½ „ |
| Knees ... ... | 13½ „ | 14¼ „ |
| Calf ... ... | 13¾ „ | 16½ „ |
| Lung capacity ... | 160 | 240 |

Yours, &c.,

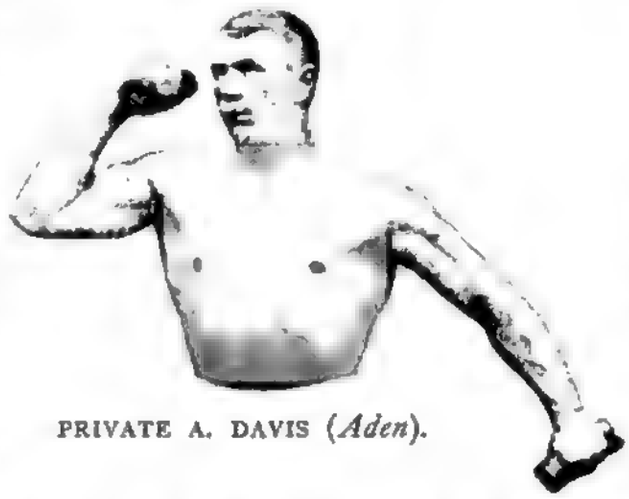
A. Davis (Pte.),
1st Hants Regt.

### Free Meals for School Children.

At a meeting held in the Grand Assembly Rooms, New Brigate, Leeds, recently, Sir John Gorst, M.P., supported a resolution moved by Mr. W. Thorne, general secretary of the Gas Workers' Union, and seconded by Mrs. B. Adams, a member of the late London School Board, which urged the Government to grant the provision of at least one free meal a day to school children with the view of checking physical deterioration. Sir John Gorst asked how far the authorities were going to fulfil their obligations towards the children whom they compelled to go to school. They built the schools, organised the management of them, appointed the teachers, and provided the apparatus. They invited the children to go at three years of age, and compelled them at five. There were numbers of anæmic and ill-nourished children, degenerate, and totally unfitted to

receive the instruction provided for them. The proportion of degenerate children in some of the poorer districts of northern towns was 60 per cent. In London it was 90. Who were these degenerate children? They were children who, though healthy at birth, had degenerated through bad surroundings and sinister influences, but chiefly through want of proper food. It was a pathetic fact that whilst they had the opportunity to regenerate these unfortunate little ones they did not do so.

There were many grave considerations which made for the physical good of the young. Pure air, pure water, proper ventilation, and a number of other conditions had to be thought of. All these things, however, sank into insignificance in the face of the one great necessity—proper and sufficient food. Many children said to be mentally defective were not so at all. They were starved. The causes contributing to the physical ills he had touched upon were ignorance, neglect, and poverty. The remedy for ignorance was teaching; neglect could be, and was, dealt with as a criminal offence; and it was for the authorities to remedy the baneful effects caused by poverty. "I see no plan," continued Sir John, "except the one of feeding the child at the public expense."



PRIVATE A. DAVIS (*Aden*).

The resolution was adopted.

Proposing a vote of thanks, Dr. William Hall asked, "Where is the soul of a little child?" "It belongs," said the speaker, amidst much laughter, "to Little Mary." He had seen the virtue of a good dinner given to a little child, and he could tell them that hunger was the mother of vice. They could all become Good Samaritans at the small cost of twopence per day.

## Education and Exercise.

A representative of the *Daily Chronicle* has interviewed Mr. J. H. Yoxall, M.P., secretary of the National Union of Teachers, with regard to the circular recently issued by the Board of Education to the authorities of teachers' training colleges urging them to at once adopt the model course of physical exercises recommended by the Committee appointed by Parliament to consider the matter.

"It is, of course, easily possible to overdo physical exercises as an item of the curriculum of public elementary schools," remarked Mr. Yoxall, "but this circular from the Board of Education marks an advance upon the attitude of that body towards this question some four years ago.

"At the instigation of the War Office apparently, the Board of Education cry then was for military training. Most absurd scenes were witnessed in the North of England, where school mistresses as well as schoolmasters, were assembled in the parks or under drill sheds to learn how to form 'fours' and stand at ease, and marched in squad at some stentorian drill sergeant's command.

"Thanks, however, to representations made to the House of Commons, a Committee was appointed, and their report has altered all this and recommended a more intelligent and useful scheme.

"It is certainly a very proper thing that the students in training colleges should understand the physiological basis of the exercises which they themselves practise an l which they will afterwards cause the children in the schools to practise.

"But there is some danger that the brief amount of time available for the education of

children in our public elementary schools may be forgotten.

"Six years of school life, forty-six weeks per year, twenty-seven and a half hours per week, and 10 to 15 per cent. of the children always away—this does not leave much scope for what used to be called 'extras,' as well as the three R's and the rudiments of general knowledge. There is a risk of 'too much zeal' on the part of the advocates of physical training. People do not seem to recognise that the average elementary school scholar comes to school with far less stock-in-trade to begin with than the children of the middle and the upper classes.

"The vocabulary gained at home, in the majority of cases, is so meagre that the poor child has to be taught to read and recognise words most ordinarily used in the conversation of people of some education. It must not, therefore, be supposed that anything like the amount of time given to physical exercises in secondary schools can be accorded to the children in elementary schools without damage to the efficiency of the other work."

### Physical Competition for Dundee Children.

At a meeting of the Dundee Trades and Friendly Societies Association it was agreed to arrange for a physical drill competition amongst the children of the Board Schools in the city, and the secretary was instructed to approach Mr. J. Martin White with the view to his presenting a cup, and to write to several other gentlemen asking for suitable prizes. The tug-of-war competition for the Longair Cup will probably take place at the same time as the physical drill competition.

* * *

*** We have had our attention drawn to a pamphlet entitled "Vibration," which sets forth the benefits to be derived from using the Veedee Vibrator. We have not had the opportunity, nor for the matter of that, the necessity to test the instrument, which would appear to be very simple in operation, and judging from the possibilities claimed and results attained, the instrument is very cheap at the price (30s.). It is made by the Homes' Manufacturing Company, Temple Chambers, E.C.

## IN PRAISE OF THE KILT.

Lecturing at the Polytechnic Institute, Regent Street, recently, Mr. J. Cantlie, F.R.C.S., stated that the most healthy form of attire for boys was the kilt.

It was too often the wish of mothers, he said, that their boys should look like little men. A little boy might look pretty in a middy's costume, but such tight-fitting clothes were detrimental to his health.

Nothing in the way of dress better developed the all-important physical blessings of health and strength than the kilted skirt. It gave a warmth to the loins most conducive to the strength of the future man.

The kilt was excellent for men, but most important for boys, from the health point of view.

A distinguished physician gives it as his opinion that undoubtedly from a health standpoint kilts were quite the best kind of clothes for growing boys.

"Boys nowadays in Eton suits and tight-fitting collars do not stand the same chance in the battle for health as boys who wear loose-fitting garments. You have only to go to the Highlands to see this.

"In the Highlands those children who wear kilts are invariably strong and turn out fine men.

"Then again, look at our Scotch regiments. No stronger or finer set of men exist throughout the service. I put most of this strength down to the fact that many of the men in their youth wore kilts or clothes which were loose, and so gave their limbs full scope to develop."

# A Sporting Episode in Norway.*

By RICHARD THIRSK.

TOR is on his own confession no great sportsman. But that did not prevent him working up a temporary enthusiasm. Doubtless the instinct was merely latent. At any rate, when word came down to us that the river was "full of ducks," he developed an interest in guns and feathers that was little short of a mania, and for the time being threatened to get the better of his imagination. The promise of a day's blazing at the ducks, and the possible prospect of killing one, aroused within him strange thoughts. At times he would pity the poor ducks; at other times he had his doubts. His state of mind was clearly revealed in a multiplicity of questions, possible and impossible, most of which indicated that he had never before so much as taken any notice of a duck. "I say," he began one night just before falling asleep, "is a wild duck that wedge-shaped bird with a long neck?" On being told that his description answered to the duck's flight, he continued sadly, with a tone of finality, "Then I doubt if I shall shoot one!"

Another thing that troubled Tor was the strict injunction that if we wanted to see any ducks we must be up and stirring long before the dawn. He had as much doubt as to his rising as he had about his shooting abilities. With an effort he struggled into the station as the train was beginning to move out, and in the corner of a carriage finished the remainder of his early breakfast. This feat was in itself something for him to boast about and put him into good humour with himself for the journey. In truth, his was the most self-satisfied countenance I saw in all the crowded train of sportsmen and others making their way from the city at that early hour. Most of them had settled down to it in the overheated compartments with the air of men accustomed to the tedium, for travelling in Norway is not yet adapted to the requirements of the hurrying man. But it has a place of honour if one cares to speculate on the possibilities of getting out and racing the engine along the track.

Patience has its reward even in a Norwegian State train. So we alighted to greet our friends, and drank coffee at the waiting-room before driving across country to the scene of operations. Before we arrived there the first grey streaks of dawn had begun to light up the rugged horizon. There was a sniff of frost in the clear air that made the stubble crackle under our tread, and everything promised well for our sport.

In the matter of selection of shooting ground there was no choice. So it was agreed that Tor would shoot on the upper reach while I tried my luck down the river. As our boats left the bank and we parted company in mid-stream, Tor to pull up, I to drift down with the current, the sun rose out of his rocky lair. The mists that clogged the valley and capped the mountain tops slowly rolled away before it like a billowy night curtain. Then the country lay revealed, all dripping with the melting rhime frost that glistened and glinted in the sunshine and trickled liquid down the slopes.

It was a strange, scraggy panorama that opened out all round. Rocky mountains, rugged and unshapely, rose out of the thick

* Rights to translate reserved by Richard Thirsk.

pine forests that spread away over the valley. High up among the barren rocks clung tree stumps, blasted and twisted by the winter storms. Confusion and disorder was the one prevailing impression. Everything scattered topsy-turvy, as though waiting for someone to come and put it into shape. Sense of proportion or symmetry had not been dreamed of. The picturesque was not suggested. There was no vista to attract and delight the eye; no one feature in particular on which the eye could rest content. Unrest everywhere. Yet it was not without its own peculiar fascination and charm, even mystery. Its immensity forced itself upon the mind; its barrenness and utter loneliness created a deep and lasting impression. This was the handiwork of the biting north winds and the heavy snows: between them they had conspired to do their work well.

My boatman was an old hand in those parts; so old, that his knowledge of ducks and their habits could almost be compared with their knowledge of themselves. During all his lifetime he had never at any time been more than a dozen miles out of sight of the river. He looked out on it and all that associated with it as though he loved it; it had become so much of himself; a part of his life, and its deep silence had developed into his nature. He sat at the oars, silent; yet his clear blue eyes had in them the suggestion of long, long thoughts and dreams. A rugged, typical Norseman, with the blood of the Viking still tingling in his veins, though it finds outlet in less adventurous channels than of yore.

No sound broke the stillness of that glorious autumn morning save the occasional splash, splash of the oars as our boat drifted down the sluggish stream towards some rocks where the boatman expected a rise. On nearing them he leaned on the oars and stared anxiously ahead. Evidently satisfied that he saw something, he deftly turned the boat towards some low rocks, pointed significantly, then squatted on the bottom of the boat. Such conduct could only mean one thing. There were ducks at hand. Though I could not see them I took him on trust, cocked, and followed his example in taking cover. Slowly we drifted. At fifty yards I could see the ducks moving about; at thirty yards they became more distinct and my finger itched to let go the first shot of the season. At twenty yards I could see them preening themselves after the morning splash; they were becoming uneasy, and so was I; but I restrained myself for an equal advantage. At fifteen yards they saw us bearing down upon them and rose. Bang! Bang!! rang out both barrels. I had hit. Two of them fluttered in their flight and fell. Ere the echoes had rolled away over the silent crags they lay helpless on the bosom of the river. Sound of the gunshots and sight of the fallen birds roused the old boatman to enthusiasm. His eyes flashed excitement and he trembled in every limb like a lurcher on the scent as he sprang to the oars, eager to secure the kill. One duck had only been winged and had to get the contents of a second barrel poured into it.

Certainly this was encouraging and I verily believed that the river must be "full of ducks." So we lay to under cover of the rocks awaiting events. We were rewarded before long. A dozen scared birds came driving down the river This was exactly the sport we had tried to plan; to get the birds between both guns and keep them on the move from the one to the other. But wild ducks have had the cunning instilled into them during the generations. They are, without exception, the wisest bird on the wing, and never, by any chance, fall in with pre-arranged plans. At anyrate that flock seemed fully to realize our intention and, scenting danger among the rocks, rose high. As they passed over I took a random shot, more in the hope of turning them than of killing. By a strange chance one fell, and the others, increasing their flight, took away overland.

We followed them to an inland swamp where they had alighted. Sporting in a region where the next step might land you

into the mire was not the most desirable. Our only hope was to drive them back to the river, in which we ultimately succeeded. On returning to the river we sighted them resting on the rocks; but so scared that to get within range was almost an impossibility. However, the boatman's dexterous manœuvring brought us sufficiently near to bag two more as they rose. By this time the morning was well advanced, and so many guns were out on the river that the birds were kept constantly on the wing, and the chances of life seemed to be sorely against them. So they disappeared as if by magic and for the nonce sport was at an end.

In anticipation of this we had a brace of rods with us. The river Glomin boasts a few, *a very few*, trout, and the light breeze that had sprung up favoured angling for them. On one line we trawled a minnow, and with the other cast a most fantastic fly. This fly was designed by the boatman's cunning and displayed all his love of bright colours. He had succeeded in outdoing nature beyond anything that I could imagine. In spite of his assurances that he had already killed with the same fly I confessed to being sceptical. Yet the event proved that he was no dullard in the matter of judging the appetite of those fish, and his fantasy was based on reason. At the third cast in the slack water behind some rocks I hooked a trout turning the scale at two pounds, and in the course of an hour or so two more were deceived by the gaudy fly. But they were sluggish fish, affording no sport. Instead of showing fight they sank to the bottom and after a very feeble struggle came to the net as though tired of life.

Thus it wore on past noon, when other thoughts than ducks and fishes began to force themselves upon us. Sport is all very good; but the excitement creates more substantive desires. Hunger is inevitable. The sharp air has a healthy effect on the appetite. In this the boatman was at one with me. He did not say so in as many words; he merely looked it. Therefore when he pointed suggestively up stream to the landing place I nodded assent, and we turned accordingly.

There we learned that Tor had been prompted by similar feelings and had preceded us.

"Any luck?" he shouted across to me as we neared the bank.

"Not much," I answered, guardedly; whilst his visage lengthened as he replied:

"Exactly the same as me. I haven't killed one. But it's just what I expected!"

"We've done a little better than that."

"You have!" he exclaimed, coming down to meet us. "How many have you?"

"Only five birds and three fairly good trout."

Tor was sceptical and wanted to see them before he spoke. "You've got all the luck," he sighed disconsolately as he thoughtfully contemplated the fins and feathers in the boat.

His spirits were so low that I tried to encourage him.

"Don't take it to heart. Your turn will come in the evening," I counselled.

Tor shook his head and picked up a duck. That was all.

Dinner awaited us, and sight of the good things spread out on the table dispelled his melancholy. As we did justice to the eatables, he quite forgot his misfortune in a long discourse on the beauties of the mountains, in which ducks had no mention. He found ample time to enlarge upon his subject, for the meal proved such a one as only sportsmen have a right to enjoy; consequently, we were in no hurry over it. Besides, we had an appetite to satisfy, which was ample excuse for the justice we did to the liberal helpings which the good damsel busied herself in bringing to us. Then when our enthusiasm for ptarmigan, thrushes, beef-steaks, and the sundries was no more, we experienced a sensation that we had been tempted beyond the limits of our activities. It is little wonder that the coffee remained almost untasted. Tor curled in the embrace of an armchair. Conversation was reduced

to a few languid words, punctuated with nods. Happy visions arose before closed eyes, and for the next hour I have only the faintest recollections of having heard Tor begin to snore.

In the interval our boatmen had been more energetic. They had kept an eye on the river, and came to wake us with the news that the ducks were beginning to come back. Tor languidly grunted that he was comfortable. But the boatmen were irresistible, so in the end we followed them down to the boats. It was then another of Tor's brilliant ideas suggested itself to him. He was convinced that duck shooting was all a matter of luck, and that if he were in the company of the man who had proved himself lucky in the morning, possibly his luck might take a turn. Often he is full of such strange thoughts that it is difficult to guess what he is getting at. Whether or not he had some ulterior motive when he claimed the bow seat in my boat remained to be seen.

The boatman had unlimited faith in the rocks, and drifted us back to the scene of the morning's adventures. But the ducks had not wholly forgotten the results of those adventures, and were prone to give the rocks a wide berth. Hence we were obliged to return to where a little stream bubbled into the river. Ominous signs and sounds whetted our fagging instinct as we moved cautiously inshore within range. Tor determined to justify his excursion with at least one duck and took the preference shot while they rested on the water. He missed. I got one on the rise. The birds flew up stream, then of a sudden wheeled back again almost before we had time to reload. This so excited Tor, who was already exasperated to swearing, that he blindly fired both barrels before the ducks came into range. They rose high and were gone; and I made mental reflections on the advisability of two sportsmen shooting from the same boat. The charging of that shot I lost will be one of the things I shall ever remember against Tor. No feat, be it ever so marvellous, can ever restore my lost confidence in him, or restore him in my good graces. I noticed that the boatman shared my feelings and began to fear my companion, to whose foolish mutterings we neither of us paid any heed.

A little higher up the river we came on another likely resting place for ducks. We held a short consultation, and the boatman wisely suggested that Tor should go ashore and creep along the bank to the opposite side of the bay, and if there chanced to be any ducks, get them between our guns. It was beginning to get dusk, and the bank was steep and wet. He had been gone for some time, and we lay in wait under cover of the bank. I heard a scrambling sound some distance off, as though loose earth had slipped, followed by a gun report. The boatman became alarmed, but just at the moment my attention was centred on three ducks skimming the surface toward me, and held me so that all the world might then have fallen unheeded. No man ever had a better shot, and I gave a good account of both barrels. That over, I felt some concern about the scrambling and the shot, and directed the boatman to make haste.

The shadows hung so heavy on either bank of the broad river that Tor had to direct us to his whereabouts by shouting. On nearing the spot where his figure was dimly outlined against the darker trees, I heard him groan bitterly. But my misgivings vanished when he demanded petulantly:

"What kept you so long?"

"Some ducks," I hastened to reply. "Is there anything wrong?"

"It's all wrong!" he echoed. The words seemed to come from the depths of his heart. "It's no more duck shooting for me!"

How sad the words sounded; but how much sadder he looked standing dripping on the bank. Not another word was said as he stepped into the boat, a sorry figure encased in an inch of clay from head to toe. In his eagerness to get right up to the birds, and so make certain of one of them, he did not

notice a pool of stagnant water until he tripped in the undergrowth and took a header into the hole. In the fall a twig had fired the gun, and the report going off an inch or two from his ear nearly convinced him that he had gone to his long reward for attempting to take life.

As we glided down stream I stopped two more birds on the way to their night quarter. Tor was in no humour to linger awhile and enjoy the romance of the slowly darkening woodland that rose out of the mists on either margin of the river. Almost perceptibly the hill-scape closed in around us, growing momentarily more shadowy and mysterious. As we hurried downward the darkness overtook us, hiding those landmarks that had already become familiar. A thin veil of mist rose out of the water, trailing upward to where the lamp of Jupiter was hung out on a summit. Stray beams struggled through the mist and danced in silver ripples athwart the river. Silence, serene and penetrating breathed in everything, and was intensified by the musical lap, lap, lap of the water on our prow. The night had come. A bat circled overhead, and at intervals an owl screeched eerily far up in the woodland.

Word had gone round the district that two Englishmen were sporting in the vicinity. Evidently this was such an unusual happening, and so interesting withal, that on returning to our quarters we found a numerous gathering of curious sightseers. That they should show much interest in Tor, and stare hard at him, was only natural. More than that, they were full of compassion for him, expressing their sympathy in a language he could not understand. What he could understand and appreciate fully was their practical sympathy. They raked up some old clothes for him to wear while his own were drying. When he presented himself in the make-shift garb he certainly looked a curious guy; and at first glance it was impossible to tell whether he was man or goblin. I have never been able to determine the precise nature of that garb. Certainly it would have rejoiced the heart of a Dan Leno, if by any possible chance he could have affected it and looked half as grotesque. The coat might have been part of a Norwegian National costume; one of those handy garments that do service for funerals, weddings, and other gala functions. The only doubt about it was its antiquity. The other garments might have belonged to anything, or to anybody, except Tor. As for the trousers, they were of especial interest, being numerous sizes too large for him. He had to tuck up the bottoms in several rolls until they somewhat resembled a feathery legged hen. Unfortunately the spacious seat could not be disposed of in like manner; and there were ladies in the room, which added to poor Tor's discomfort. Like a wise man he sought refuge in an armchair near the fire, where these little defects were somewhat hidden, and from which retreat he could on no pretence be induced to rise.

Soon as we had supped a song was demanded, and it must be an English song. Tor is a bit of a singer; I am not. But Tor was a prisoner, and persuaded himself that the ducking had knocked all the singing out of him. So the honour of the evening fell upon me, which was unfortunate. Happily, during my student days I had occasionally tuned my pipes on a few rowdy ditties. One of these I gave them to the best of my ability, putting into it as much of the old fire as I could remember. If the evening did turn out somewhat hilarious for a Sunday, it nevertheless sped rapidly, and all too soon we discovered that it was time to go home to the city. By way of a grand *finale*, someone suggested we should sing "Auld Lang Syne." The suggestion staggered me for the moment, but when the company began singing that dear old song of so many tender associations with all the enthusiasm and feeling of a gathering of Scotsmen, I did not know what to think. Certainly it does sound strange to hear the foreigner sing those songs of home.

# Woman and Exercise.

IN a recent issue of the *Field* the following excellent treatise on this important subject appeared :—

"A cessation, which has proved to be temporary only, of diatribes against indulgence in violent forms of exercise by women led one to think that possibly the malcontents had ceased their opposition. But a recent recrudescence has made it clear that this is not so. The plaint of the censors is almost always made from the society point of view. It is unladylike to overheat oneself. Dishevelled hair is unbecoming, if not absolutely indelicate, and the large hands and feet which we are assured are inevitably consequent upon the playing of games requiring much running or walking and the frequent grasping of clubs, rackets, and such-like implements, unfit a woman for filling a place on as high a social plane as she otherwise would attain. No doubt the people who write these things from time to time are perfectly sincere, and think they are doing their best to stay the rapid downfall of their sex to a depth below redemption. It evidently never occurs to them that they may be fighting shadows, the shadows of evils of their own imaginings. In the first place, they take up an altogether unwarranted position in assuming that all women must naturally, or, at any rate, should, aspire to a state of society the prevailing sentiment of which is an abhorrence of high colour in the skin and large hands and feet. As a matter of fact, some of the bluest-blooded of our women possess all three attributes by process of birth, without the adventitious aid of a misguided course of violent exercise. Indeed, one may go so far as to say that the *petite* person, pale in complexion, with tiny hands and feet, unserviceable for any other purpose than that of wearing the smallest-sized gloves and boots, is by no means accepted as our English female type. Such fragility, when met with, is regarded with curiosity; our inner yearning is for the fully-grown, rosy-cheeked, alert woman, whose existence seems to excite such abhorrence in circles which we hope will remain limited. The spectacle of a well-dressed woman knows no peer in the eye of man, but far distant be the day when the female form divine is to be considered in no other light than as a lay figure for the display of the art of the modiste.

"The wave of feminine activity welled in upon us along with the last quarter of the nineteenth century. It was the coming of lawn tennis which opened the gate of the athletic paradise to women, and just when they were thoroughly realising the new-found joy, who should step in for their further delectation but the originators of the safety bicycle. Up to this period woman had been able to share with man only one of his sports, that of hunting, but no one could call that a sport of the people. The chance of the people came in with lawn tennis and the bicycle. Little recked these of heightened complexions or inability to wear the smallest-sized gloves and boots in the ecstasy of feeling the blood coursing through the veins. For the first time they asked themselves the question, 'Why should the life of woman be always that of the torpid snake?' Woman answered the question by stepping boldly forth into the athletic world, which found itself all the better for it. Having faced the larger world on a bicycle, and the at first astonished (when not scandalised) world having in time accepted the apparition and the situation, woman had, indeed, cut the knot which had hitherto restrained her, and the subsequent pursuit of golf and hockey became mere natural incidents in her onward march. All this is thought very dreadful by the censors, but the athletic movement

amongst women has been of incalculable service to the nation. It should strike everyone as an economic truism that the more rapidly we sacrifice our open and country spaces to bricks and mortar the more pressing becomes the necessity for counteracting the evil effects. Place a man in the unspoilt country, where the sun can shine and the winds of heaven blow about him, and he needs no ball games to keep him in health; but this is a state of things that is rapidly becoming rare, and sooner or later will cease to be taken into calculation.

"The changed condition of things calls for fresh means of building up and preserving a healthy constitution When we fail in attaining this end we shall disappear from the face of the earth as a nation. And when we come to talk of the national health there can be no differentiation between man and woman. What is sauce for the goose is sauce for the gander. The mothers of the future England must be sound and healthy, and this a judicious participation in athletic exercises tends to make them. The woman who has participated in games or other athletic exercises has unconsciously gone through a course of training that is calculated to make her fit to meet the increased demand upon all who would succeed. The censors tell us that the woman who devotes herself to games never can succeed at anything else; her time is too wholly engrossed by her darling pursuits. This is assuming that anyone playing assiduously at lawn tennis or golf, or practising figure-skating with the view of obtaining a high pitch of excellence, or of gaining some particular honour, has the need for other distinction. The man and woman of leisure are not wasting their own or the world's time by prosecuting some sport or pastime, even though it be to the exclusion of many other things. It is curious, were it not the way of the world, that those who cast blame upon others for a devotion to games do not see that it is far better that they should have this than swell the army of incompetents in our art schools and musical colleges. They might even, instead of attacking women for indulging in athletic pursuits, animadvert upon the way in which so many have taken of late years to following racing. Women, as lookers-on, have always been welcome at race-meetings, but nowadays they are not satisfied with mere spectatorship, but insist upon plunging into the bustle of the betting ring, where of course they are quite out of place. Here is plenty of room for the satirist, or moralist, or both. The "Monstrous Regiment" of women is never so pronounced as at a present-day race-gathering within reach of the Metropolis, sometimes to the partial obliteration of the male element."

All who take an interest in the welfare of their bodies will no doubt make a point of securing Mr. Sandow's latest work, entitled "Body Building, or Man in the Making." It is a most useful treatise, full of interesting and valuable information, and in addition to containing a number of finely executed photos of Mr. Sandow and his family, includes exercises for the prevention and cure of various ailments. The book is published at 1*s.*, and may be obtained at the offices of the Magazine, 131, Temple Chambers, E.C., or of the publishers, Messrs. Gale & Polden, 2, Amen Corner, E.C.

# Physical Training in School.

AT a conference on school hygiene, held in connection with the Sanitary Congress in Glasgow, Dr. Tuke, of Dunfermline, read a paper on "Physical Training as a Branch of School Hygiene." The following is a synopsis of the paper:—

"The primary object of any course of physical exercises in schools is to maintain, and, if possible improve the health and physique of the children. 'The question of physical training can only be looked upon as a branch of the greater question of school hygiene.' These two findings of the Inter-Departmental Committee are of the greatest importance, showing that the educational authorities are now cognisant of the necessity of physical training as a part of the regular school life of the children. In working to produce the physical effect there should be three distinct aims in view:—(1) to raise the standard of health, and hence increase the power of resistance to the organisms of disease; (2) to assist in the treatment of distinctly pathological conditions; (3) to aid the development of the child in structure and function. The first and immediate result of muscular contraction is to raise the blood pressure, and, in consequence, to increase the exudation of the lymph (the food in an assimilative form) into the general tissues of the body. In the actual muscle itself there is an effusion of lymph, not only at the time of contraction, but immediately after it has ceased. During muscular contraction there is a pressure exercised on the lymphatic vessels which aids the flow of the lymph along these vessels. The principle on which these exercises to attain the first aim is based is that short, muscular exercise stimulates the fluid exchange between the blood and the lymph spaces, and this is the physiological basis on which these exercises are to be carried out. The name 'nutritive' is an excellent one to apply to these exercises, because it at once conveys to the mind exactly what the object of the exercise is—viz., to nourish and build up the body. The respiration or deep breathing exercises are very distinctly of the nutritive order. They directly aid in the nutrition of the body by bringing to the blood an increased supply of oxygen and removing the carbonic acid gas; they develop the air cells of the lungs in ordinary use; but, further, the forced inspiratory effort gets at many of the air cells not brought into play in ordinary respiration. Their effect markedly improve the nutrition of the heart muscle, which means greater blood pressure and consequently increased fluid exchange between the blood and the tissues. The second aim is one that in this country has never received that attention to which I think it is justly entitled. In every school one is struck with the fact that there is a certain percentage of the children who, from some physical defect, are unable to take part in the games of the playground and who mop about in corners or hang about the class-rooms when instruction in physical training is going on and their fellow scholars are improving their physical health. It is necessary that a form of remedial physical training be adopted for this class. No definite system can be laid down; each case must be taken and treated according to its requirements. It is not claimed that physical training is a panacea for all the evils of child life, but it is firmly established and daily becoming more recognised as a distinct remedial measure. Periodical medical examination would bring to light many of these pathological conditions. All that should be asked of the teacher is to bring under the notice of the school medical officer those pupils who exhibit signs of distress or discomfort. The third and last aim is 'to aid

the development of the child in structure and function.' The type of muscular exercise used with this object in view is of an entirely different character from that employed to bring about the nutritive result. It is here that the educational result is looked for as well as the physical. Exercises of this type have a powerful influence on brain development. A training for teachers, to be of any real use must include instruction in the theory of the 'Physiology of Exercise,' as well as in practical work. In the training colleges for teachers school hygiene in all its branches is fairly entitled to find a place. To aid and assist all teachers, both professional and otherwise, to acquire a sound knowledge of physical training, I urge strongly the formation of a 'Scottish Institute of Physical Training.' Such a body could establish in various centres courses of lectures, and afford opportunities to both country and town teachers of acquiring a wider and deeper grasp of this subject. It would still further tend to raise the standard of teaching were such an Institution, after examination both in theoretical and practical work to issue certificates of proficiency. I trust that the day of the old drill serjeant is passed, and that in future this will be put in the hands of those able to appreciate it from a higher standpoint. There is a question of great importance in the general adoption of physical training, and that is the question of feeding. Children may be deficiently nourished because they are getting —(1) insufficient quantity of food, or (2), a sufficient quantity, but inferior quality. This could all be remedied to a large extent were the school authorities to supply a good wholesome meal once daily to all children who obviously require it. The cost would be trifling compared with the gain in physical and mental development; the nutritive exercises would be of much greater value, due to the enriched lymph, and an attempt at improvement in structure and function could be gradually introduced. With the cells of the brain well filled with lymph, the educational work of the teacher would be greatly simplified because it is just as reasonable to ask starved brain cells to work and waste as starved body tissue. In Sweden a supply of food to school children has now been carried out for some years with excellent results. The question of suitable clothing does not present any great difficulty. Boys require to take off jacket and waistcoat, and loosen the shirt at the neck. Then ordinary boots *must be replaced* by gymnastic shoes, because it is quite useless to attempt the foot exercises in boots with a three-quarter inch sole well studded with nails. With girls, gymnastic shoes are just as necessary. Stays should be renounced so as to insure the free play of the trunk muscles. A simple school costume, such as is used in Sweden, should be gradually introduced into all schools, consisting of a loose blouse, a skirt, and knicker-bockers. For the purpose of physical training the skirt only is removed. Such a dress permits complete freedom of movement, and hence the better carrying out of the exercise. All the reforms that I urge in this question of physical training are simple and practical, and, if gradually instituted and carried out, will help to raise the standard of health in our schools. Admitting that physical training is a branch of this great question, it should be our endeavour to try to produce a perfect co-ordination between all branches of school hygiene, aiming, as in the case of the muscular system, at even development and harmonious co-operation."

# SPORTING SPECIALITIES.

*In these columns we propose introducing to our readers the latest developments and innovations in the way of sporting implements, etc., particulars of which we shall always be pleased to receive.*

---

Messrs. A. G. Spalding & Bros., of Fetter Lane, E.C., write us as follows:—

"Dear Sirs,—Last year we manufactured a golf ball as nearly perfect as possible, which left the club like a 'ghost in the night.' Some of the best players, accustomed to the cracking sound of the old gutta ball, persuaded us that our ball would be improved by adding this 'crack.' We quickly found, however, that a 'cracking sound' and a 'cracking ball' were synonymous terms, and that we had sacrificed the 'durability' of the old Wizard for the sake of the sound. 'To err is human,' to acknowledge it divine; so, although it is rather expensive, we make the following proposition:—That every player in the country, or every dealer in the country, who has any of our 'cracking' 1904 brand of Wizards, can exchange them for the ball that we are now putting out, which is identical in every way with the 1903 product, having driving qualities equal to any other ball, and 'durability' which no other ball possesses."

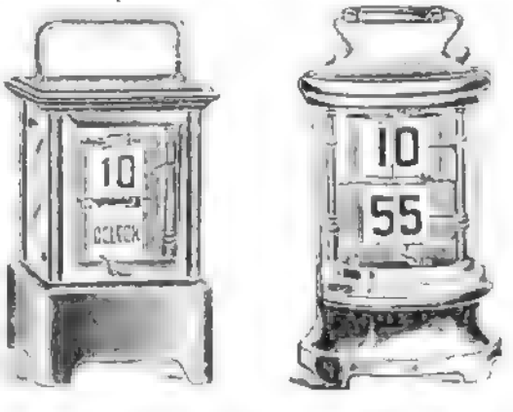
* * *

Now that the days become shorter, indoor games are more sought after, and therefore

we may be pardoned for drawing attention to a little article which amongst those whose inclination runs towards games of chance is sure to appeal. It is a new pocket Roulette, which Messrs. Gamage are just putting on the market. Highly finished, and in every way a reliable article, as may be seen from the accompanying sketch, it is exactly the same form as a watch. At the retail price (5*s.* 6*d.*), it should meet with a ready sale.

* * *

This time it is not a counterfeit timepiece to which we would draw our readers' attention, but to a real one in quite a new form, and one which should speedily replace the old dial-face of watches and clocks, for it presents to us the time as it is invariably




written. Our time-tables are all set out in the fashion given, but our chief reason in calling attention to this innovation is the possibilities it gives in connection with the timing of races, when the clock is reduced to pocket-size, with minutes, seconds, and fifths, instead of, as at present, hours and minutes. We are a very conservative country, and stick to many old-fashioned things for association's sake, but we venture to think that the new "Ever Ready" Chronos Clock will effect a revolution on time. The clocks, which are on view at Messrs. Gamage's, vary in price from 25*s.* to 50*s.*, according to design and finish, those shown in the illustration being retailed at 25*s.* and 40*s.* in gilt, matt gilt, or lacquered brass.

ALTHOUGH I have opened these pages for the purpose of coming into closer touch with my friends and readers, you must remember that space is limited, and I *cannot* prescribe courses here.

The attention of my readers is called to an announcement on page vii of advertisements.

All communications relating to Instruction by post should be addressed to me at Basing House, Basinghall Street, E.C., and these will receive prompt attention.

Ordinary replies cannot be answered by post.

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*F. Riddiford* (*Kensal Rise*):—Thanks for letter and group. Both show that you are going about things in the proper way. Persevere and do your best to get others to follow your example, and you will reap your reward.

*T. Turnbull* (*Newcastle*).—Regret we have not the addresses you require, but perhaps the new hon. sec. of the Essex Club, whose name and address you will find in this month's "Notes," can supply you with the information required.

*E. Revod* (*Leeds*).—Your measurements for your height are fairly proportionate, except your waist, which should be some three inches smaller. Certainly, carefully selected exercises, judiciously practised, cannot help but strengthen the heart and so do away with palpitation.

*G. S. Mann* (*Punjab, India*).—Thanks for your interesting letter. The man would certainly appear to possess a wonderful digestion. I have heard of such things before, but am not desirous of witnessing the performance.

*Skinflint* (*Brixton Hill*).—Get my Anthropometrical Chart, you will get all you require from that. Glad you are pleased with the magazine.

*Anxious* (*Manchester*).—Considering the rate at which you are growing—five inches in three years—and the fact that you are still young, prevents you from putting on so much flesh as some, but you are building up muscle and should in no way be discouraged, for you have plenty of time to improve. You have left out one or two important items in your particulars, notably weight, waist and chest expanded, but from the figures you give you are not so much below the average. Try a lighter dumb-bell, use more concentration on your movements, and do not overtire yourself.

*T. Shepperson* (*Nottingham*).—(1) Thanks for letter and photo which I hope to reproduce at some future date. Glad to know my lecture had such good results. Continue to persevere and get others to follow your example. (2) They are not published in post card sizes, but some others are obtainable. Your stationer should be able to get them.

*F. E. Dorchester* (*Lower Edmonton*).—You appear to have recovered wonderfully, and judging from the photos, have soon succeeded in bringing up your development to its proper condition. Should be glad to hear from you again.

*C. H. Stokes, Junr.* (*Wandsworth*).—(1) Yes. (2) There is no necessity to go back on exercise. (3) It is evidently an affection of a local nerve. Try massage and endeavour to control the expression as much as possible. Am pleased to know of your progress. Other portions of your letter have beeno dealt with.

*V. B. Harrison* (*Victoria, B.C.*).—You have failed to furnish me with the most important particulars, viz., weight and measurements. Send me those and I shall be better able to judge. In the meantime eat three good sound meals a day and take Plasmon with your food.

*S. M. Tirumalachari* (*Madras*).—The suggestions contained in your letter have not been lost sight of, but are receiving the closest attention. It is quite impossible for me to write personally to all my correspondents. Were I to do so, I should have no time for anything else. When I am in your district I shall be pleased to hear from you.

*G. Harris* (*Tonbridge*).—Write to the Manager, 131, Temple Chambers, he will supply you with the article you require at the very lowest rate.

*Edw. S* (*Tettenhall*).—You do not seem to be aware that a magazine is not like a daily paper. We have to go to press weeks ahead, and at the time your letter was received your photo was in the press.

*Robert Nisbet* (*Haddington*).—I am afraid the information you require would occupy far too much space. I suggest you would do well to see a professional performance, which would give you some guide. The Manager of the Expert Department will be able to give you all information regarding cost of weights, &c.

*R. B. Macdonald* (*Bombay*).—Many thanks for letters. I congratulate you on such good results, which are as flattering to you as to my system. Shall be glad to hear of your further success.

*F. C. Betts* (*Banbury*).—Am glad you liked show card, &c., and trust they will be the means of inducing more of your young men to pay proper attention to the cultivation of their bodies.

*Edward Cook* (*Paddington*).—From the photograph to hand, the result of six months' exercise is excellent, but cannot judge measurements as you do not state your age.

*A. H. Bidgood* (*Clapham Junction*).—Sorry photos are not strong enough for reproduction. I note what you say re the School, and hope you will carry out your intention, for as you say, the six months you have already had has brought about a wonderful improvement. You do not give age, height, or weight, so cannot comment on measurements.

*A. P. Dale* (*Beith, N.B.*).—The photo shows excellent results, but would prefer that you send measurements.

*A. H. G. Mackintosh* (*Inverness*).—Thanks for good wishes. I advise you to procure my Anthropometrical Chart, that will give you the information you require. I trust you will do all in your power to further the cause. You omit to include your weight with measurements, which makes it difficult to judge. You should be able to show more than 1½ in. chest expansion.

*Wm. E. Poole* (*Heaton*) *and others.*—Your surmise is quite correct, it was a printer's error. The line should have read "active" exercise should *not* be taken after a full meal. "Body Building," is now obtainable at all booksellers, price 1*s.*

*Excelsior* (*Arbroath*).—Yes, I should certainly adopt your medical adviser's suggestion. It can do no harm and will tend to strengthen you. Shall be glad to hear from you again in the near future.

*M. Abdul Hamid* (*Punjab*).—(1) Write to the publisher of "Answers," he will be able to supply you. (2) Your requests are receiving attention.

*J. H. J. Wolmarans* (*Pretoria*).—You omit to give your height and weight, so cannot comment to any great extent on measurements. Chest requires more development. Use developer and dumb-bells regularly and write me again.

*E. Cook* (*Paddington*).—Have mislaid your previous letter. Send full particulars again.

# Sandow's Sports Bureau.

With a view to providing a medium whereby readers of his Magazine may obtain the best advice in the selection of various sporting implements, Mr. Sandow has secured the co-operation of experts in various branches of sport, whose opinions will be given free of all cost.

The benefits accruing therefrom to the purchaser are incalculable, for without any charge whatever, he will secure the assistance of one of the best men in every branch of athletics, in the selection of the articles desired.

Be it a bat, football, racquet, cycle, rifle, or anything else that may be required, all that the reader has to do is to write to the

Expert Department,
**Sandow's Magazine,**
131, Temple Chambers,
E.C.,

stating the nature of the goods wanted. The Expert will at once (by return post if possible), forward a quotation for the best article of its kind. On return of the quotation slip with the amount stated, the goods will be specially selected by the Expert, and forwarded. It will be definitely stated on the quotation sheet whether the price includes carriage or not.

**This is not an offer to the general public, but only to readers of SANDOW'S MAGAZINE.**

# Sandow's Sports Bureau Coupon.

*To the* Expert Department, Sandow's Magazine,
131, Temple Chambers, E.C.

*Please give your advice and particulars as to price, etc., of articles mentioned below.*

*Name* .....

*Address* .....

.....

*Requirements :—*

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# CHIEF SPORTING FIXTURES
## FOR OCTOBER.

*** *The figures in parentheses in this Index denote the number of days' racing at each Meeting.*

### TURF.

1—Hurst Park (1).
1—Westmeath Polo (1).
2—Paris (1).
3—Nottingham Autumn (2).
4—Bungay (2).
5—Hexham (1).
5—Leicester (2).
5—Limerick (2).
7—Haydock Park (2).
7—Kempton Park October (2)
8—Paris (1).
8—Phœnix Park (1).
9—Paris (1).
11—Listowel (2).
11—Newmarket Second October (4).
12—Shincliffe (1).
13—Worcester Autumn (2).
14—Tubbercurry (1).
15—Lingfield (1).
16—Paris (1)
17—Wolverhampton (3).
18—Gatwick October (2).
18—Newcastle Autumn (2).
18—Curragh (3).
20—Cheltenham (2).
20—Chantilly (1)
20—Thirsk (2).
20—Sandown Park (3).
22—Stockton (1).
23—Chantilly (1).
24—Colwall Park (1).
24—Gatwick (1).
24—Nottingham (2).
25—Chantilly (1).
25—Newmarket Houghton (4).
26—Monmouth (2).
27—Chantilly (1).
27—Keele Park (2).
29—Folkestone (1).
30—Chantilly (1).
31—Birmingham (2).

### SWIMMING AND WATER POLO.

3—English 100 Yards Championship, at Middlesbrough.
3—Cygnus S.C. Entertainment, at Camberwell Baths, S.E.
4—Southern Counties 150 Yards Championship (London), in London.
6—English Schoolboy Team Championship Final at Aston.
6—Southern Counties London Schools Team Championship Final, in London.
7—Richmond S.C. Entertainment.
11—Amateur S.C. Entertainment, at Holborn Baths, W.C.
13—Northern Counties Club Water Polo Championship Final, at Burslem.
13—Southern Counties 100 Yards Ladies' Championship, in London.
14—Seal S.C. Entertainment and Junior Diving Championship of London.
14—Otter S.C. Gala and 150 Yards Championship of London.

### ROWING.

1—Auriol R.C., Invitation Regatta.
8—Vesta R.C. Regatta.
15—Anglian B.C., Closing Day, Dinner and Smoker.

### COURSING.

5, &c.—Ridgway Club.
6—Angerton (Morpeth) (1).
6—Sussex County Club (2).
11—Wappenbury (Produce) (2).
11—Testerton (Norfolk) (2).
11—Mid-Annandale (2).
11—County Clare Club (2).
13—Gravesend and Cliffe Clubs (2).
18—Rochford Hundred Club (2).
19—Navenby and Blankney (2).
20—Farcet Fen (Peterboro) (2).
25—Tralee Club (2).
26, &c.—Border Union.
26—Docking Club (2).

### BILLIARDS.

3-15—C. Harverson *v.* T. Reece 1,600 up (Reece rec. 1200), 3 and 8 p.m., at Glasgow.
10-22—American Tournament (M. Inman, W. Cook, W. Osborne, and H. C. Wilkinson), Heats 2,400 up, 3 and 8 p.m., at Leicester-square, W.C.
17-22—£1,000 Tournament—H. W. Stevenson (scratch) *v.* C. Harverson (rec. 2,250), 9,000 up, 3 and 8 p.m., at Soho square.
24-29—£1,000 Tournament—F. Bateman (rec. 2,500) *v.* M. Inman (rec. 2,750), 9,000 up, 3 and 8 p.m., at Soho-square.
24, &c.—London Charity Handicap commences, Heats 300 up.
31 to November 5—£1,000 Tournament—C. Dawson (scratch) *v.* T. Reece (rec. 2,750), 9,000 up, at Soho-square.
31 to November 5—J. Roberts *v.* T. Aiken, at Queen's Hall, Edinburgh.

### ATHLETICS.

1—50 Miles Amateur Walk at the Crystal Palace.
4—G.P.O. Walk.

### YACHTING.

1—Tamesis Club; Matches, Teddington, 3 p.m.
1—Minima Y.C. (Surbiton Division).
8—Thames Valley S.C.: Matches, Hampton, 3 15 p.m
15—Minima Y.C. (Surbiton Division).

### LAWN TENNIS.

3, &c.—Covered Courts Championship of London, Queen's Club, West Kensington.

### DOG SHOWS AND FIELD TRIALS.

11-12—Warwick, near (Gun Dog League's Retriever Trials).
18-20—Crystal Palace (Kennel Club Show).
26-28—Edinburgh.

### GOLF.

1 —Guildford G.C.: Autumn Meeting.
1 —At Davidson's Mains, Bruntsfield Links G.S. Autumn Meeting.
1, &c.—Royal Portrush G.C.: Autumn Meeting
3, &c.—Royal Portrush Ladies' G.C.: Autumn Meeting.
4, &c.—Old Deer Park, Richmond:—Professional Golfers Association Tournament.
5 —West Lancashire Ladies G.C.: Autumn Meetings.
5-6 —Hunstanton G.C.: Autumn Meeting.
5 and 7—Royal Liverpool G.C.: Autumn Meeting.
6, &c.—Sudbrook Park G.C.: Autumn Meeting.
7, &c.—Royal West Norfolk G.C.: Autumn Meeting.
7, &c.—Dinard G.C.: Autumn Meeting.
7-8 —Redhill and Reigate G.C.: Autumn Meeting.
7-8 —Royal Eastbourne G.C: Autumn Meeting.
8 —Wembley G.C.: Autumn Meeting.
8 —Gullane, Royal High School: Autumn Meeting.
8, &c.—Royal Ashdown Forest G.C.: Autumn Meeting.
8 and 10—Rye G.C.: Autumn Meeting.
8 and 10—Lytham and St. Anne's G.C.: Open Amateur Meeting.
12 —Tunbridge Wells G.C.: Autumn Meeting.
15, &c.—Royal St. George's G.C.: Autumn Meeting.
15 —Mortonhall G.C.: Autumn Meeting.
19, &c.—Warwickshire G.C.: Autumn Meeting.
22 —Chislehurst G.C.: Autumn Meeting.
22, &c.—Felixstowe G.C.:—Autumn Meeting.
29, &c.—Hythe G.C.: Autumn Meeting.
29, &c.—Great Yarmouth G.C.: Autumn Meeting.

### FOOTBALL.

#### RUGBY.

1—At Blackheath, *v.* Old Leysians.
8—At Blackheath, *v.* Old Merchant Taylors.
15—At Blackheath, *v.* Moseley.
19—Surrey County Trial Match.
19—At Rugby, Midland Counties *v.* East Midlands.
20—Kent County Trial Match, at Catford.
24—In Wales, Glamorgan *v.* Durham.
26—In Surrey, Surrey Colts *v.* Middlesex Colts.
29—In Northumberland, Northumberland *v.* Cheshire.

#### ASSOCIATION.

20—At Norwich, Norfolk *v.* Suffolk.
20—At Ware, Herts *v.* Berks and Bucks.
29—In London, Middlesex *v.* Cambridge University.
For other Football Fixtures, *see* Sporting Papers.

### BOXING.

3, 10, 17, 24, and 31—Contests at the National Sporting Club, Covent Garden, W.C.

### TROTTING.

3—Essex Amateur T.C. Meeting, Parsloes Park, near Barking.

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# KEEP THE BLOOD PURE

## AND THE HEALTH OF THE SYSTEM WILL FOLLOW.

THE BLOOD being the source from which our systems are built up, and from which we derive our mental as well as physical capabilities, it is important that it should be kept pure.

**If you suffer from any Skin or Blood Disease, such as**

**ECZEMA, BAD LEGS, GOUT,**
**SCROFULA, BLOOD POISON, BOILS,**
**SCURVY, RHEUMATISM, PIMPLES**

and **SORES** of any kind,

**you should test the value of Clarke's Blood Mixture, the World-Famed Blood Purifier.**

It is warranted to cleanse the Blood from all impurities, from whatever cause arising. Thousands of testimonials have been received from all parts of the world. Read the following:—

"BOILS AND PIMPLES."

DEAR SIRS,—I suffered for a long time with boils and pimples on my neck and face, and also became low-spirited, as if my health was run down. I took several bottles of ordinary medicine, but it did not seem to do any good, so after seeing the advertisements and testimonials I decided to try Clarke's Blood Mixture. After taking one 11/- case I am thankful to find myself quite restored to my former good health, and cannot recommend it too highly.—Yours truly, J. S. COOPER, 17, Melbourne Street, Moston Lane, Blackley, Manchester, Feb. 9, 1904.

*Of all Chemists and Stores, 2/9 per bottle. Ask for*

# CLARKE'S BLOOD MIXTURE,

## THE WORLD-FAMED BLOOD PURIFIER.

*And beware of worthless Substitutes.*

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